Self Diagnosis Supported model

SERVICE MANUAL

RA-3B CHASSIS

MODEL NAME	REMOTE COMMANDER	DESTINATION	CHASSIS NO.
KP-43T90	RM-Y906	US/Canada/Mexico	SCC-P62A-A
KP-48V90	RM-Y906	US/Canada/Mexico	SCC-P62D-A
KP-53V90	RM-Y906	US/Canada/Mexico	SCC-P62C-A
KP-61V90	RM-Y906	US/Canada/Mexico	SCC-P62B-A

KV-53V90

RM-Y906

COLOR REAR VIDEO PROJECTOR

SONY®

9-965-907-01

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SPECIFICATIONS

Power Requirements 120V AC, 60Hz

Power Consumption (W)
In Use (Max) 170W
In Standby 1 W

Inputs/Outputs

Video 1 IN

Video 2 INPUT (front)

Video 3 IN
S Video IN (4-pin mini DIN)
Y: 1 Vp-p 75 ohms unbalanced, sync negative
C: 0.286 Vp-p (Burst signal), 75 ohms,

Video (phono jack)
1.0 Vp-p, 75 ohms, sync negative;

Audio (phono jacks)
500 mVrms (100% modulation), Impedance: 47 kilohms

Video 4 IN
Y: 1 Vp-p, 75 ohms, sync negative
PB: 0.7 Vp-p, 75 ohms
PR: 0.7 Vp-p, 75 ohms

Audio (phono jacks)
500 mVrms (100% modulation), Impedance: 47 kilohms

Audio (VAR/FIX) Out (phono jacks)
500 mVrms (100% modulation), Impedance: 470 ohms

Control S Out
minijack

	KP-43T90	KP-48V90	KP-53V90	KP-61V90
Speaker Woofer (2)	100 mm (4 in)	100 mm (4 in)	100 mm (4 in)	160 mm (6 7/8 in)
Tweeter (2)				66 mm (2 5/8 in)
Speaker Output (W)	17W x 2	17W x 2	17W x 2	17W x 2
Dimensions (W x H x D)				
mm	965 x 1058 x 570 mm	1,105 x 1,338 x 579 mm	1,216 x 1,417 x 632 mm	1,370 x 1,560 x 670 mm
in	38 x 41 5/8 x 22 1/2 in	43 1/2 x 52 5/8 x 22 3/4 in	47 7/8 x 55 3/4 x 24 7/8 in	54 x 61 3/8 x 26 3/8 in
Mass kg	53.2 kg	64.4 kg	66 kg	92.6 kg
lbs	117 lbs	142 lbs	145 lbs	204 lbs 8 oz

Television system
American TV standard

Channel coverage
VHF: 2-13/ VHF: 14-69/ CATV: 1-125

Picture tube
7-inch high-brightness monochrome tubes (6.3 raster size), with optical coupling and liquid cooling system.

Screen size (measured diagonally)
43 inches (KP-43T90)
48 inches (KP-48V90)
53 inches (KP-53V90)
61 inches (KP-61V90)

Antenna
75 ohm external terminal for VHF/UHF

Supplied Accessories
Remote Control RM-Y906
Batteries (2) size AA (R6)

Optional Assessories
Connecting Cables
RK-G34, RK-74A, RK-G69HG, VMC-10HG, VMC-720M, VMC-810S/820S, YC-15V/30V
U/V mixer EAC-66

Design and specifications are subject to change without notice.

WARNINGS AND CAUTIONS

CAUTION

Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield, or carbon painted on the CRT, after removing the anode.

WARNING!!

An isolation transformer should be used during any service to avoid possible shock hazard, because of live chassis. The chassis of this receiver is directly connected to the ac power line.

⚠ SAFETY-RELATED COMPONENT WARNING!!

Components identified by shading and ⚠ mark on the schematic diagrams, exploded views, and in the parts list are critical for safe operation. Replace these components with sony parts whose part numbers appear as shown in this manual or in supplements published by Sony. Circuit adjustments that are critical for safe operation are identified in this manual. Follow these procedures whenever critical components are replaced or improper operation is suspected.

ATTENTION!!

Apres avoir deconnecte le cap de l'anode, court-circuiter l'anode du tube cathodique et celui de l'anode du cap au chassis metallique de l'appareil, ou la couche de carbone peinte sur le tube cathodique ou au blindage du tube cathodique.

Afin d'eviter tout risque d'electrocution provenant d'un châssis sous tension, un transformateur d'isolement doit etre utilisé lors de tout dépannage. Le châssis de ce récepteur est directement raccordé à l'alimentation du secteur.

⚠ ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!

Les composants identifies par une trame et par une marque ⚠ sur les schemas de principe, les vues explosees et les listes de pieces sont d'une importance critique pour la securite du fonctionnement. Ne les remplacer que par des composants sony dont le numero de piece est indique dans le present manuel ou dans des supplements publies par Sony. Les reglages de circuit dont l'importance est critique pour la securite du fonctionnement sont identifies dans le present manuel. Suivre ces procedures lors de chaque remplacement de composants critiques, ou lorsqu'un mauvais fonctionnement suspecte.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly soldered connections. Check the entire board surface for solder splashes and bridges.

2. Check the interboard wiring to ensure that no wires are "pinched" or touching high-wattage resistors.

3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.

4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.

5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.

6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.

7. Check the B+ and HV to see if they are specified values. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.

8. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

Leakage Test

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instructions.

2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low voltage scale. The Simpson's 250 and Sanwa SH-63TRD are examples of passive VOMs that are suitable. Nearly all battery-operated digital multimeters that have a 2 VAC range are suitable (see Figure A).

How to Find a Good Earth Ground

A cold-water pipe is a guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms.

If a cold-water pipe is not accessible, connect a 60- to 100-watt trouble-light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side on the line; the lamp should light at normal brilliance if the screw is at ground potential (see Figure B).

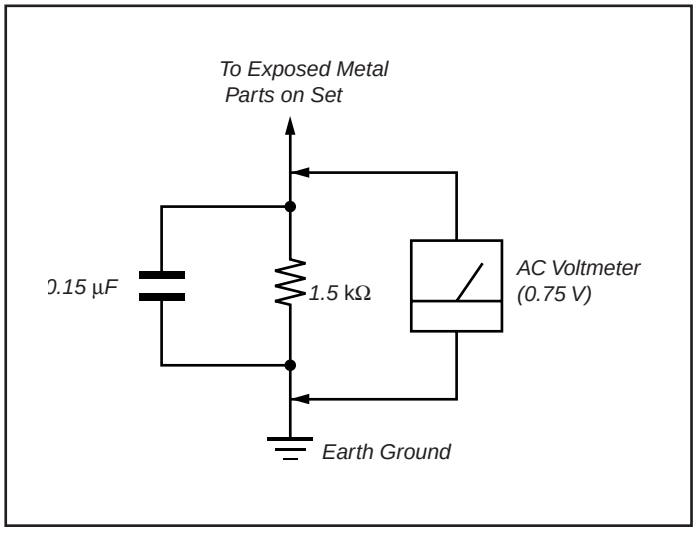


Figure A. Using an AC voltmeter to check AC leakage.

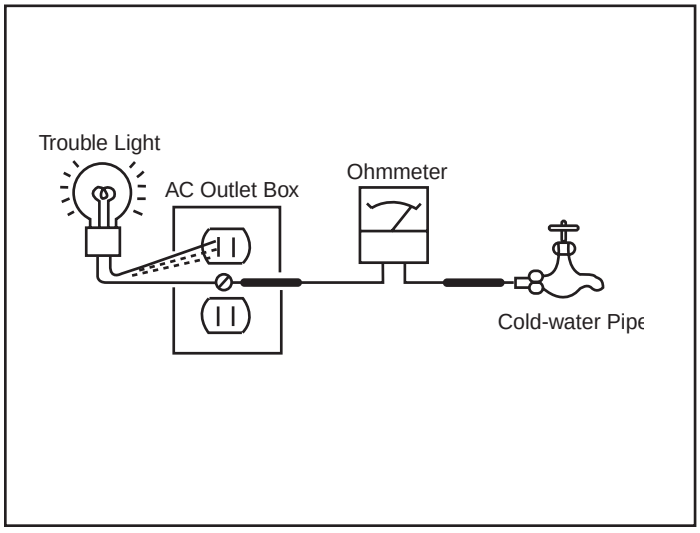


Figure B. Checking for earth ground.

SELF-DIAGNOSTIC FUNCTION

Self Diagnosis Supported model

The units in this manual contain a self-diagnostic function. If an error occurs, the STANDBY/TIMER LED will automatically begin to flash. The number of times the LED flashes translates to a probable source of the problem. A definition of the STANDBY/TIMER LED flash indicators is listed in the instruction manual for the user's knowledge and reference. If an error symptom cannot be reproduced, the Remote Commander can be used to review the failure occurrence data stored in memory to reveal past problems and how often these problems occur.

Diagnostic Test Indicators

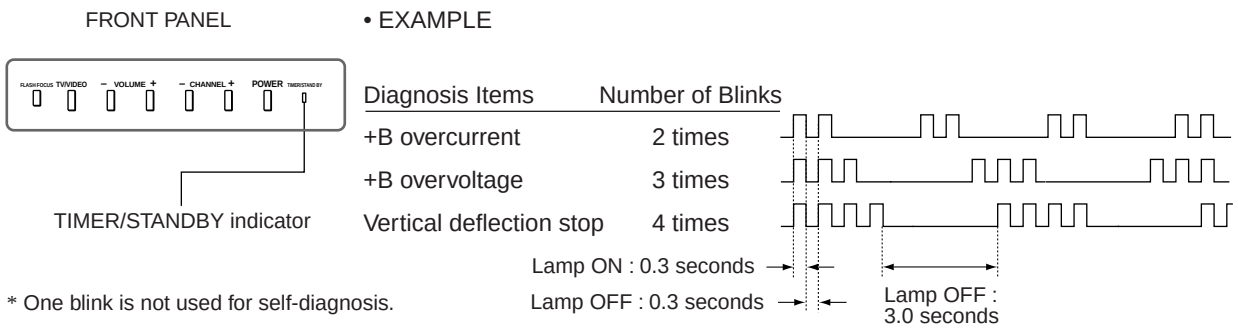
When an error occurs, the STANDBY/TIMER LED will flash a set number of times to indicate the possible cause of the problem. If there is more than one error, the LED will identify the first of the problem areas.

Results for all of the following diagnostic items are displayed on screen. If the screen displays a "0", no error has occurred.

Diagnostic Item	STANDBY/ TIMER flashes	Possible Problem Location	Condition	Detected Symptoms
Power not On	0	[Standby Power Supply System] F601 open R607 open Q601 short circuit [Main Power Supply System} IC601 and R612 are broken VDR601 short-circuit	Cannot turn on the power LED doesn't blink	
+B OCP Detection	2 times	Short circuit of power supply in each circuit	Goes to the standby mode Short circuit of the +B line	2: +B OCP 000
+B OVP Detection	3 times	T603 pin 7 to pin 8 is open	Goes to the standby mode	3: +B OVP 000
Vertical Deflection Stop	4 times	IC 1509 (V OUT) is broken Q1505 (V Pulse Buffer) is broken	Raster goes to one line horizontally A and then video signal is muted.	4: V Stop 000
Video Out Abnormality Detection	5 times	Video Out, Q705, 732, 761, and others in C board	STANDBY/TIMER LED blinks approx. 30 secs, then blinks for the diagnosis	5: AKB 000
Horizontal Deflection Stop	6 times	C515, 516 open. IC206 (YC Jungle) is broken.	Raster does not appear.	6: H Stop 000
Audio Abnormality Detection	8 times	IC 406 (Audio amp.) is broken. PS401, 402 open	The sound is not out. Goes to the standby mode	8: Audio 000

Note: 000 the range of values for number of operations is 000 - 255. For 256 or higher, the number remains as 255.

Display of Standby/Timer LED Flash Count



Release of TIMER/STANDBY indicator blinking.

The TIMER/STANDBY indicator blinking display is released by turning OFF the power switch on the TV main unit or removing the plug from the power.

Self-diagnosis screen displays

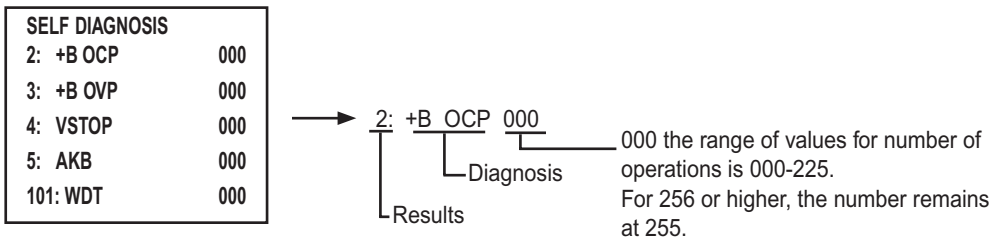
In cases of malfunctions where it is not possible to determine the symptom such as when the power goes off occasionally or when the screen disappears occasionally, there is a screen display on whether the malfunction occurred or not in the past (and whether the detection circuit operated or not) in order to allow confirmation.

Screen Display Method

Quickly press the remote command button in the following order from the standby state.

Display ⟶ Channel 5 ⟶ Sound Volume* − ⟶ Power ON

*Note that this differs from entering the service mode (sound volume +)


SELF DIAGNOSIS
2: +B OCP 000
3: +B OVP 000
4: VSTOP 000
5: AKB 000
101: WDT 000
2: +B OCP 000
Diagnosis
Results
000 the range of values for number of operations is 000-225.
For 256 or higher, the number remains at 255.

Self-Diagnosis Screen Display

The results display is not automatically cleared. In case of repairs and after repairs, check the self-diagnosis screen and be sure to return the results display to " 0 ".

If the results display is not returned to " 0 " it will not be possible to judge a new malfunction after completing repairs.

Method of Clearing Results Display

1. Power off (Set to the stanby mode.)
2. Display ⟶ Channel 5 ⟶ Sound Volume + ⟶ Power ON (Service Mode)
3. Channel 8 ⟶ ENTER (Test reset = Factory preset condition)

Method of Ending Self Diagnosis Screen

When ending the self-diagnosis screen completely, turn the power switch OFF on the remote commander or the main unit.

Self-diagnosis function operation

OCP Low B and +B line detect DET SHORT, and shut-down POWER ON RELAY.
Reset by turning power on/off.
In case of +B is loaded approx. 1.3A or more, microcomputer detects it via IC651.

OVP In case of +B becomes approx. 150V or more, POWER ON RELAY shuts down and microcomputer detects it via IC651.
Reset by turning power on/off just the same as OCP.

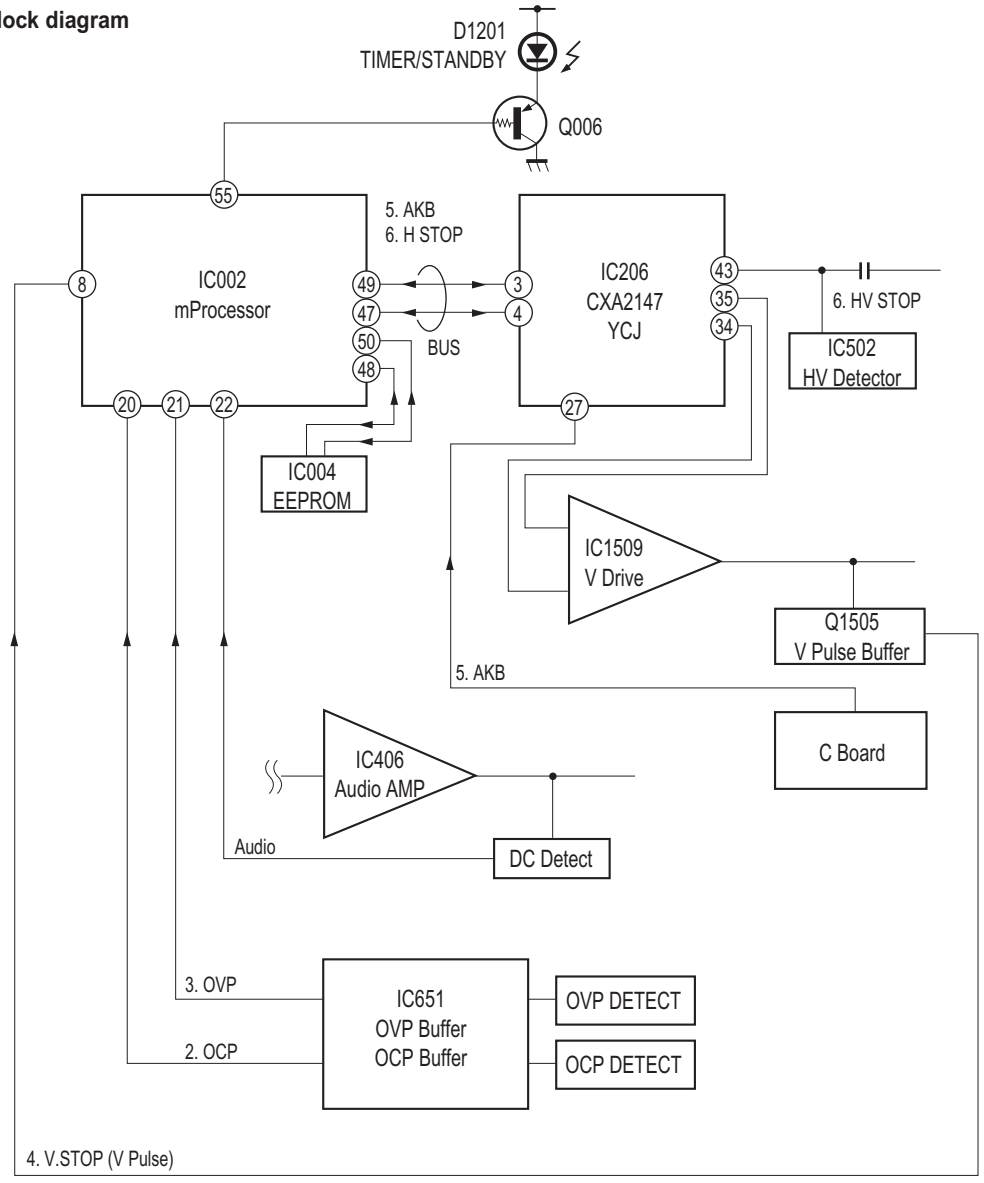
V Stop In case of microcomputer detects 2 seconds or more interval of V Pulse, Reference Pulse turns off by turning off the picture signal in YC Jungle IC (IC206).
After the picture signal turns off, V Pulse is regenerated 2 seconds or more, the picture signal turns on.

AKB IK detection. Makes LED blinking in case of microcomputer doesn't detect IK returns of IC206 CXA2147Q 30 seconds or more.

H Stop In case of HV becomes 33kV or more, IC502 detects it and shut-down H Drive Pulse.
Microcomputer receives H Stop data from IC206 and makes LED blinking.

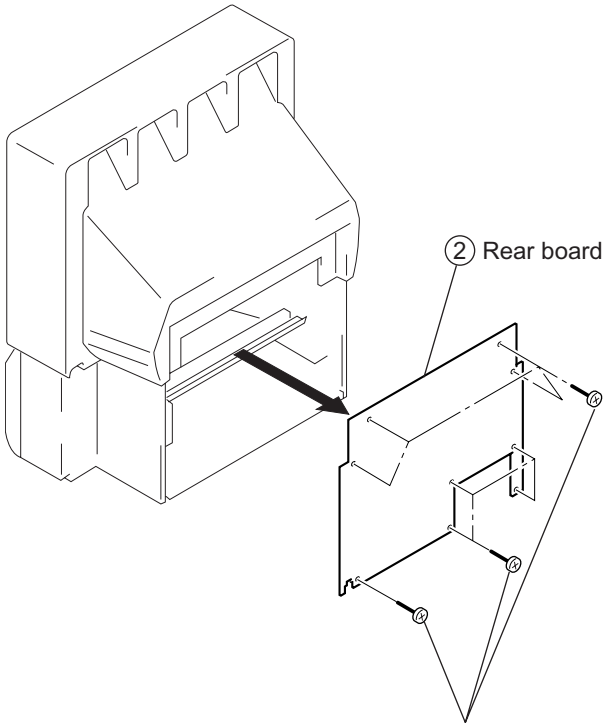
Audio In case of DC component overlaps the output of Audio Amp., microcomputer detects it and makes LED blinking.
Microcomputer forces to shut down the power.

Self-diagnosis block diagram

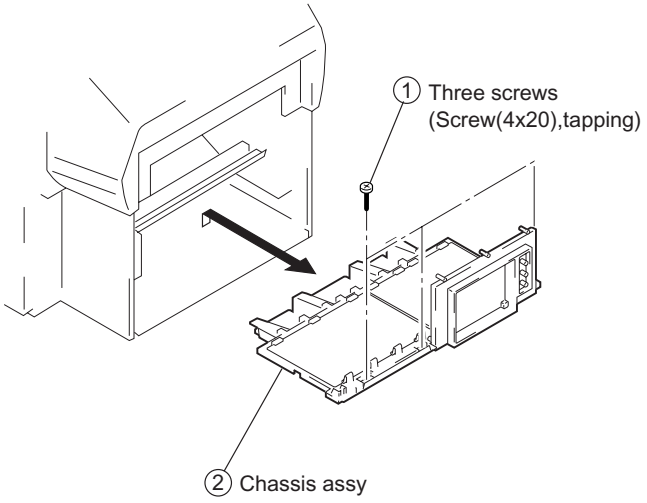


SECTION 1: DISASSEMBLY

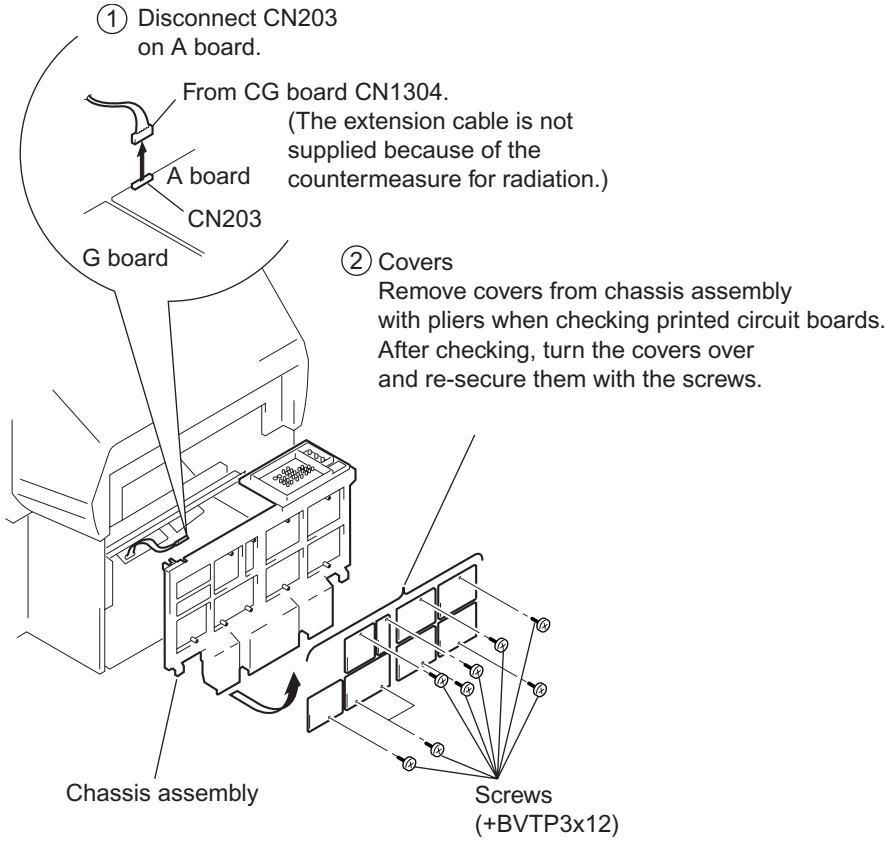
1-1. REAR BOARD REMOVAL



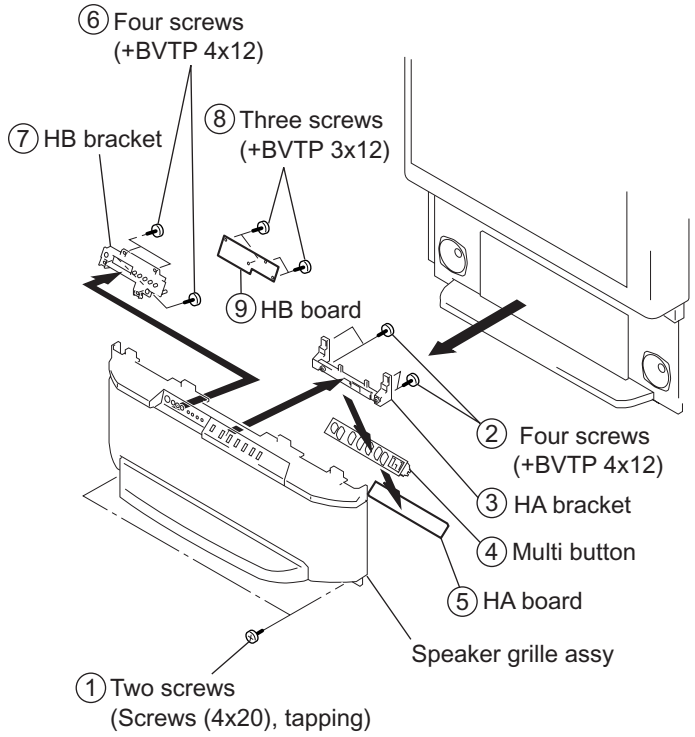
1-2. CHASSIS ASSEMBLY REMOVAL



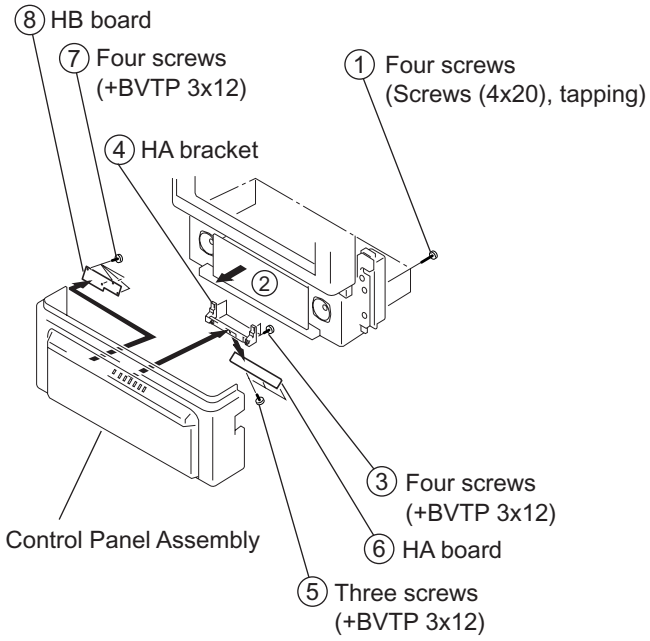
1-3. SERVICE POSITION



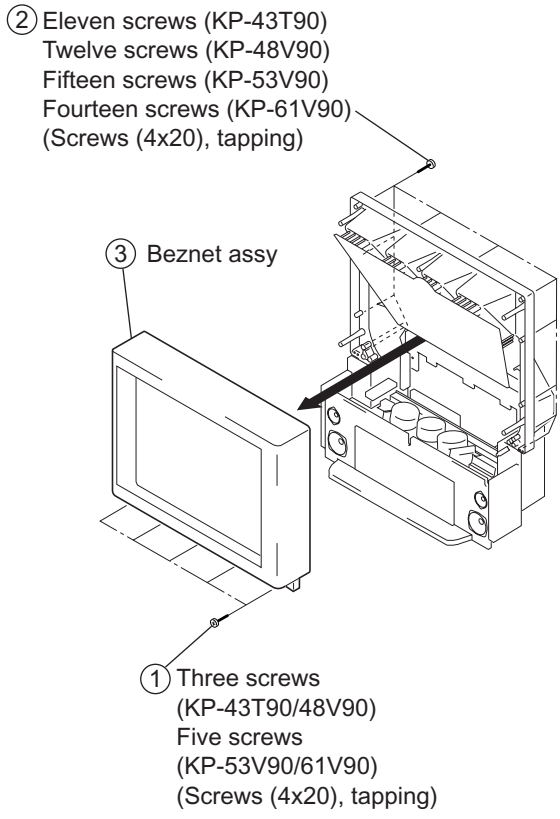
1-4. HA AND HB BOARD REMOVAL (EXCEPT KP-43T90)



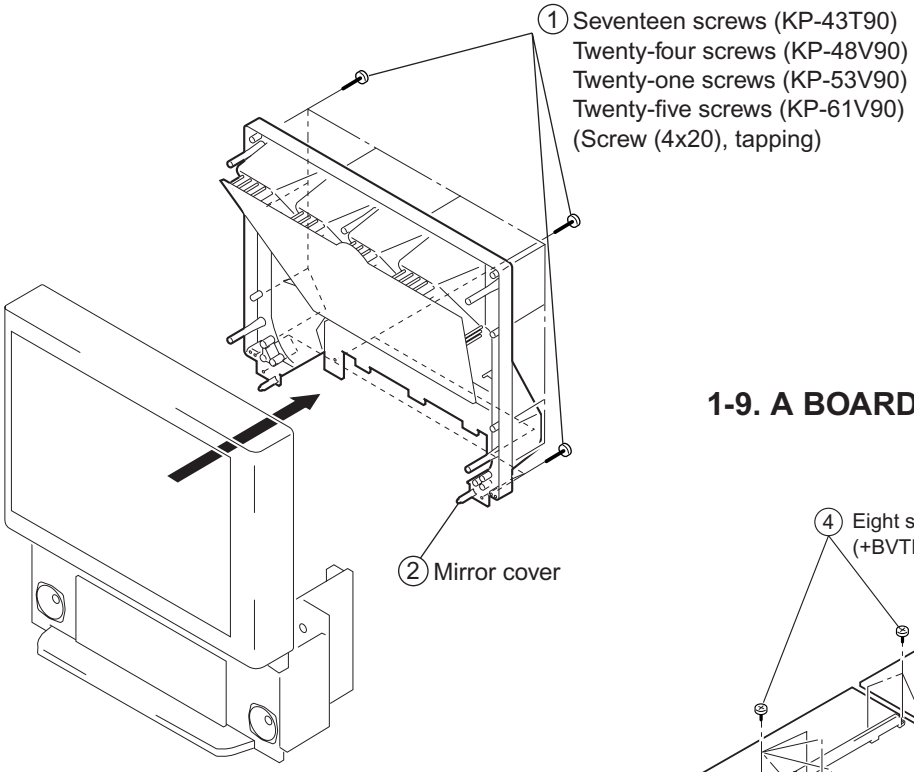
1-5. HA AND HB BOARD REMOVAL (KP-43T90 ONLY)



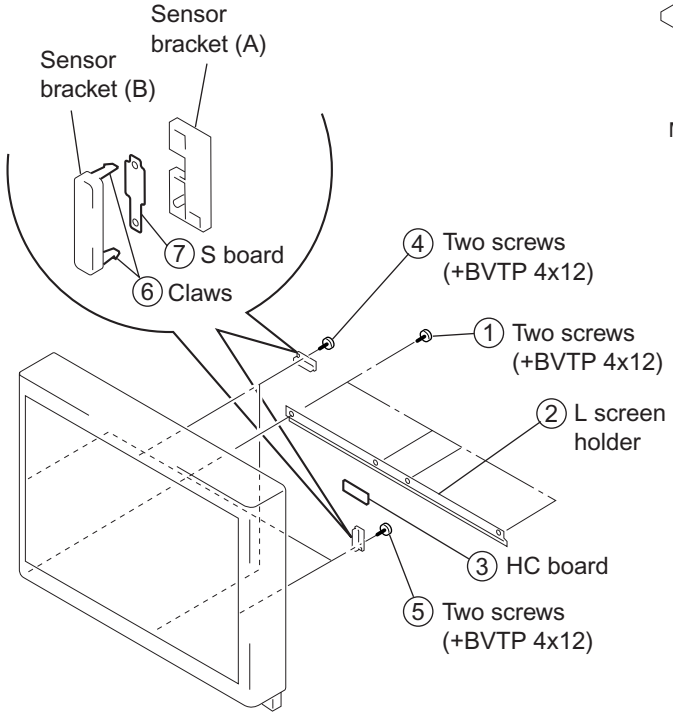
1-6. BEZNET ASSY REMOVAL



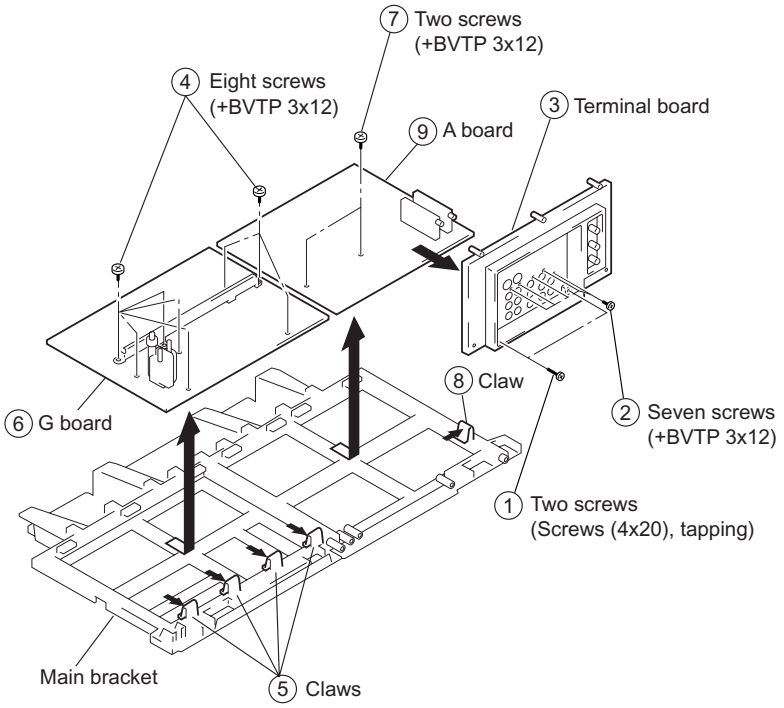
1-7. MIRROR COVER REMOVAL



1-8. HC BOARD AND S BOARD REMOVAL

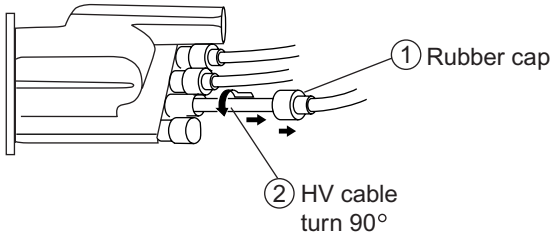


1-9. A BOARD AND G BOARD REMOVAL

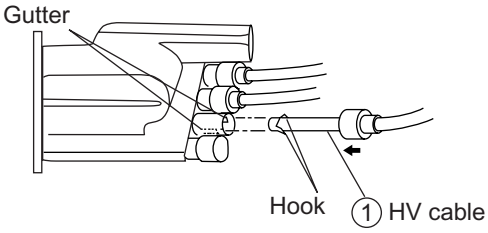


1-10. HIGH-VOLTAGE CABLE INSTALLATION AND REMOVAL

(1) Removal

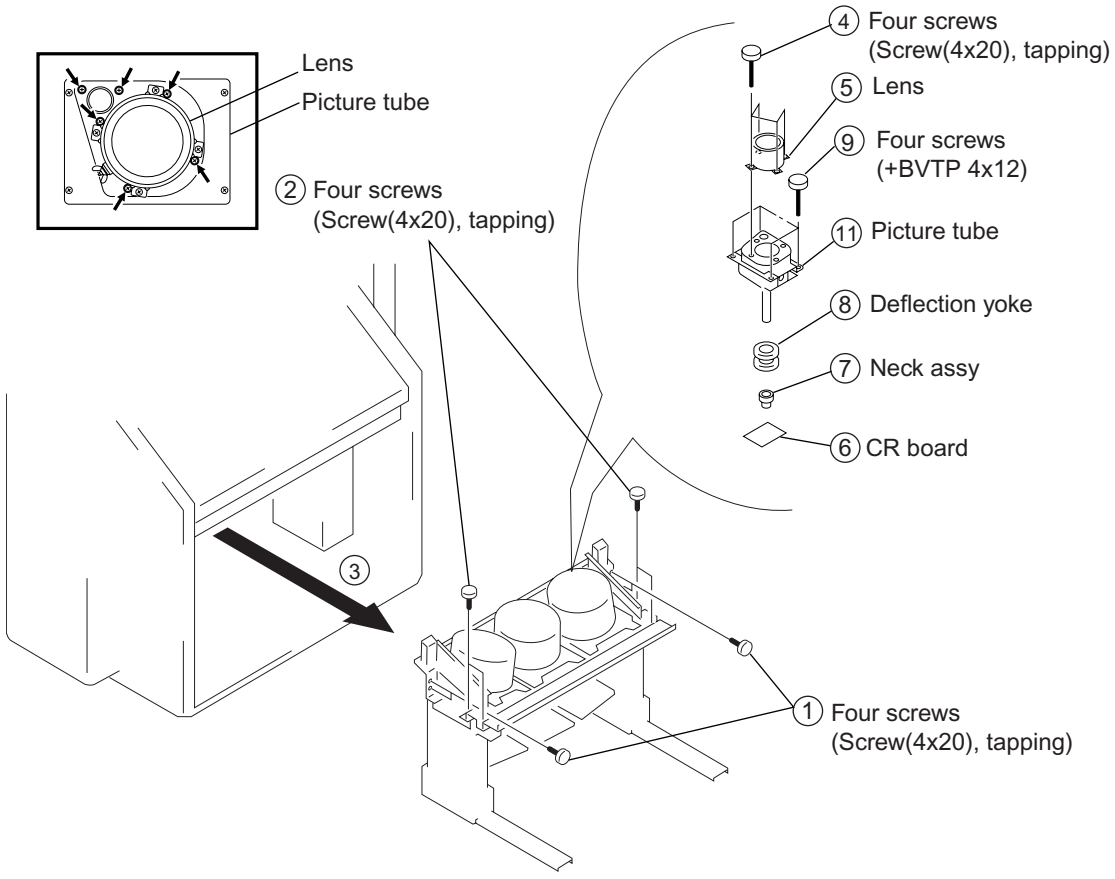


(2) Installation



1-11. PICTURE TUBE REMOVAL

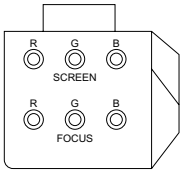
CAUTION: Removing the arrow-marked screws is strictly prohibited. If removed, it may cause liquid to spill.



SECTION 2: SET-UP ADJUSTMENTS

2-1. SCREEN VOLTAGE ADJUSTMENT (COARSE ADJUSTMENT)

1. Select a video input with no signal applied (the screen must be black, and the room must be as dark as possible. You may use a heavy blanket over the screen to block out ambient light).
2. Select picture mode “Personal 1” or “Personal 2”, and set BRIGHTNESS to 50% and PICTURE to minimum.
3. Turn the green SCREEN control on the focus block all the way to the left and then gradually turn it to the right until the retrace line is barely visible.
4. Gradually turn the control to the left until the retrace line just disappears.
5. Repeat steps 1 through 4 for the red and blue CRTs.

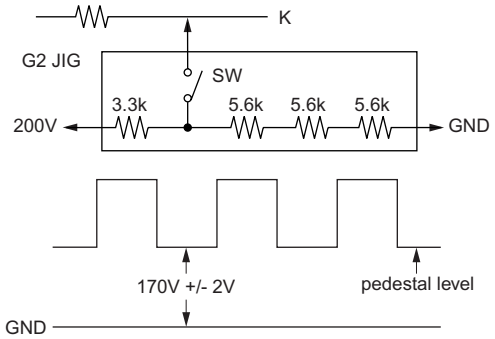


FOCUS block

2-2.SCREEN (G2) ADJUSTMENT (FINE ADJUSTMENT)

If the jig described below is available, it is recommended that the G2 Fine Mode Adjustment be performed to set the screen controls to their optimal condition. If desired, you can build the jig illustrated below, using 3-watt resistors. Please note that if the proper voltage is not obtained with the listed resistor’s values, then increase or decrease one of the values in the resistor network to obtain the correct voltage.

1. Select VIDEO-1 mode no signal applied (the screen must be black).
2. Connect the G2 JIG.
3. Switch on the JIG.
4. Connect an oscilloscope to the TP701(KR), TP732(KG) and TP761(KB) of CR board, CG board and CB board.
5. Adjust red, green, and blue screen voltage to 168-172V with SCREEN controls on the focus block, as shown below.



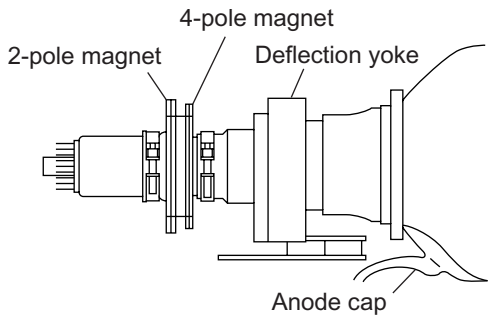
2-3. DEFLECTION YOKE TILT ADJUSTMENT

1. Display a cross-hatch pattern
2. Enter the service mode.
3. Cover the red and blue CRT lenses with lens caps to allow only green to show (or use the method shown in the note below for turning off the CRTs individually without using lens caps).
4. Loosen the green CRT’s deflection yoke set screw and align the tilt of the deflection yoke so that the horizontal bars at the center of the cross-hatch pattern are parallel to the top and bottom edges of the screen.
5. After aligning the deflection yoke fasten it securely, making sure it is fully forward on the neck of the CRT.
6. The tilt of the deflection yoke for red and blue are aligned the same way as the green CRT.

   Cover the green and blue CRT lenses with lens caps (or use the method shown in the note below for turning off the CRTs individually without using lens caps), then repeat steps 4 and 5 for the red CRT.

   Cover the green and red CRT lenses with lens caps (or use the method shown in the note below for turning off the CRTs individually without using lens caps), then repeat steps 4 and 5 for the blue CRT.

Note: If lens caps are unavailable, you can cut off the unnecessary color beams in the service mode by individually changing the data from “1” to “0” in category VPNT, item 28 RON (red), item 29 GON (green), or item 30 BON (blue).



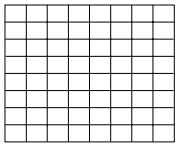
2-4. FOCUS LENS ADJUSTMENT

In this adjustment, use the remote commander while in service mode. For details on the usage of the service mode and the remote commander, please refer the item 2-9. ELECTRICAL ADJUSTMENTS BY REMOTE COMMANDER.

1. Loosen the lens wing nut.
2. Enter the service mode.
3. Display a white raster.
4. Cover the red and blue CRT lenses with lens caps to allow only green to show (or use the method shown in the note below for turning off the CRTs individually without using lens caps).
5. Select adjustment category “PJE”, then press 6 to display the test signal (crosshatch)*.

* Every time 6 is pressed, the test signal changes to: “crosshatch+video signal” → “dots+video signal” → “crosshatch only” → “dots only” → black screen → “crosshatch+video signal” → ….etc.

6. Rotate the green lens assembly to adjust to the optimum focus point with the test signal being displayed
7. Tighten the lens wing nut.
8. Cover the green and blue CRT lenses with the lens caps to allow only red to show (or use the method shown in the note below for turning off the CRTs individually without using lens caps).
9. Make sure the cross-hatch is still being displayed; if not, follow step 5 above.
10. Adjust the red CRT lens the same way as the green CRT lens.
11. Cover the green and red CRT lenses with the lens caps to allow only blue to show (or use the method shown in the note below for turning off the CRTs individually without using lens caps).



Test Signal

12. Make sure the cross-hatch is still being displayed; if not, follow step # 5 above.
13. Adjust the blue CRT lens the same way as the green and red CRT lenses.
14. After adjusting the items 2-5 “Focus VR Adjustment”, 2-6 “2-Pole Magnet Adjustment” and 2-7 “4-Pole Magnet Adjustment”, reconfirm the optimum focus point and adjust again if necessary.

Note: If lens caps are unavailable, you can cut off the unnecessary color beams in the service mode by individually changing the data from “1” to “0” in category VPNT, item 28 RON (red), item 29 GON (green), or item 30 BON (blue).

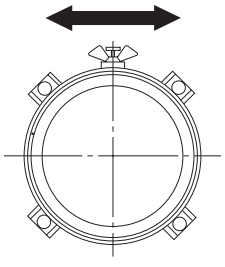
2-5. FOCUS CONTROL ADJUSTMENT

1. Enter the service mode.
2. Display a white raster.
3. Cover the red and blue CRT lenses with lens caps to allow only green to show (or use the method shown in the note below for turning off the CRTs individually without using lens caps).
4. Select adjustment category “PJE”, then press 6 to display the test signal (crosshatch)*.

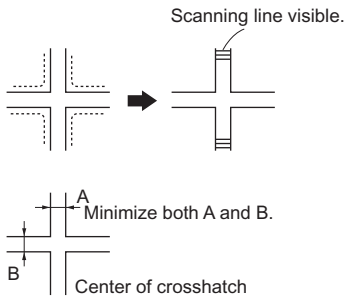
* Every time 6 is pressed, the test signal changes to: “crosshatch+video signal” → “dots+video signal” → “crosshatch only” → “dots only” → black screen → “crosshatch+video signal” → ….etc.

5. Adjust the green focus control on the focus block to achieve the optimum focus point with the test signal being displayed.
6. Cover the green and blue picture lenses with lens caps to allow only red to show (or use the method shown in the note below for turning off the CRTs individually without using lens caps).
7. Make sure the cross-hatch is still being displayed; if not, follow step 4 above.
8. Adjust the red focus control on the focus block to achieve the optimum focus point with the test signal being displayed.
9. Cover the green and red picture lenses with lens caps to allow only blue to show (or use the method shown in the note below for turning off the CRTs individually without using lens caps).
10. Make sure the cross-hatch is still being displayed; if not, follow step # 4 above.
11. Adjust the blue focus control on the focus block to achieve the optimum focus point with the test signal being displayed.
12. Repeat steps 1 through 11 after adjusting items 2-4. “Focus Lens Adjustment”, 2-6 “2-pole Magnet Adjustment”, 2-7 “ 4-Pole Magnet Adjustment”

Note: If lens caps are unavailable, you can cut off the unnecessary color beams in the service mode by individually changing the data from “`” to “0” in category VPNT, item 28 RON (red), item 29 GON (green), or item 30 BON (blue).



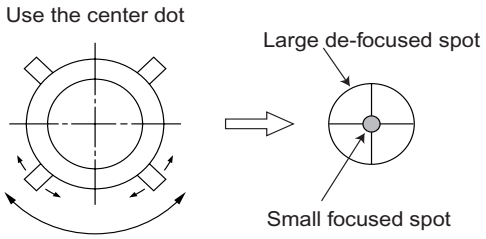
Lens



2-6. 2-POLE MAGNET ADJUSTMENT (GREEN, RED)

1. Display a dot pattern (see the details of using the internal test patterns at the end of the previous section).
2. Enter the service mode.
3. Cover the red and blue CRT lenses with lens caps to allow only green to show (or use the method shown in the note below for turning off the CRTs individually without using lens caps).
4. Turn the green focus control on the focus block to the right and set it to overfocus to enlarge the spot (the dot). See figure at the end of Section 2-3 for the location of the 2-pole magnet adjusting tabs.
5. Adjust the green CRT's 2-pole magnet so that the small bright spot is in the center of the large defocused spot.
6. Adjust the green focus control on the focus block and set it for the best focus.
7. Repeat steps 1 through 6 for the red CRT, except now you will cover the green and blue CRT lenses with lens caps to allow only red to show (or use the method shown in the note below for turning off the CRTs individually without using lens caps) and you will adjust the red focus control on the focus block.

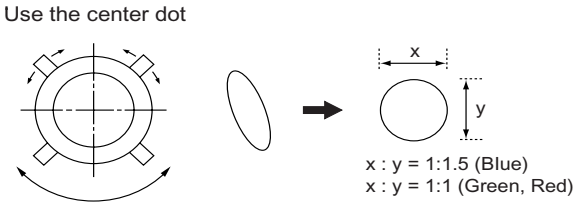
Note: If lens caps are unavailable, you can cut off the unnecessary color beams in the service mode by individually changing the data from "1" to "0" in category VPNT, item 28 RON (red), item 29 GON (green), or item 30 BON (blue).



2-7. 4-POLE MAGNET ADJUSTMENT (GREEN, RED, BLUE)

1. Display a dot pattern (see the details of using the internal test patterns at the end of section 2-5, item 4).
2. Enter the service mode.
3. Cover the red and blue CRT lenses with lens caps to allow only green to show (or use the method shown in the note below for turning off the CRTs individually without using lens caps).
4. Turn the green focus control on the focus block to the left and set it to under-focus to enlarge the spot.
5. Adjust the 4-pole magnet so that the enlarged spot in the center of the screen becomes a perfect circle.
6. Adjust the green focus control on the focus block and set it for the best focus.
7. Repeat steps 1 through 6 for the red CRT, except now you will cover the green and blue CRT lenses with lens caps to allow only red to show (or use the method shown in the note below for turning off the CRTs individually without using lens caps) and you will adjust the red focus control on the focus block.
8. Repeat steps 1 through 6 for the blue CRT, except now cover the green and red CRT lenses with lens caps to allow only blue to show. Adjust the blue focus control on the focus block (or use the method shown in the note below for turning off the CRTs individually without using lens caps). However, for the blue CRT do not make the enlarged spot a perfect circle as indicated in step 5; instead, adjust the 4-pole magnet so that the height of the enlarged blue spot in the center of the screen is approx. 1.5 times the width of the spot.

Note: If lens caps are unavailable, you can cut off the unnecessary color beams in the service mode by individually changing the data from "1" to "0" in category VPNT, item 28 RON (red), item 29 GON (green), or item 30 BON (blue).



2-8. DEFOCUS ADJUSTMENT (BLUE)

Note: Adjust the blue dot to be slightly larger than red and green dots. This adjustment provides a more pleasing picture to the customer.

1. Select the video menu and set the picture mode to "VIVID".
2. Enter service mode.
3. Change TV mode to the video-1 input mode.
4. Select adjustment category "PJE", and press 6 as many times as necessary to display the dot pattern on the screen.
5. Adjust the blue focus control on the focus block to adjust the diameter of the dots in the center of the screen as shown in the figure below.

FOCUS ADJUSTMENT POINT:

Screen Size	43"	53"	61"
Diameter	6mm	8mm	9mm

2-9. ELECTRICAL ADJUSTMENTS BY REMOTE COMMANDER.

By using Remote Commander (RM-Y906), all circuit adjustments can be made.

NOTE : The following test equipment is required:

1. Pattern Generator (with RF, composite, and component outputs)
2. Digital multimeter

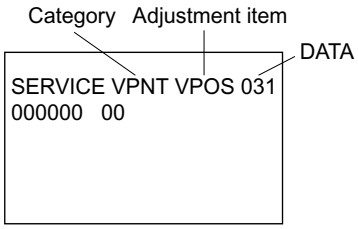
2-9-1. METHOD OF ENTERING THE SERVICE ADJUSTMENT MODE

SERVICE MODE PROCEDURE

1. TV must be in Standby mode. (Power off)
2. Press “DISPLAY”, 5, “Volume +”, then “TV Power” on the Remote Commander.

   (Press each button within 1 second of pressing the previous button.)

SERVICE MODE ADJUSTMENT



(SCREEN DISPLAY)

3. The screen displays the adjustment category and the item being adjusted within that category.
4. Press 1 or 4 to select the adjustment item
5. Press 3 or 6 to change the data
6. Press 2 or 5 to select the adjustment category
7. If you want to go back to the most recently saved value, press “0” then “ENTER” to read the memory.
8. Press “MUTING” then “ENTER” to write the new adjustment data into memory.
9. Turn power off when you want to exit the service mode.

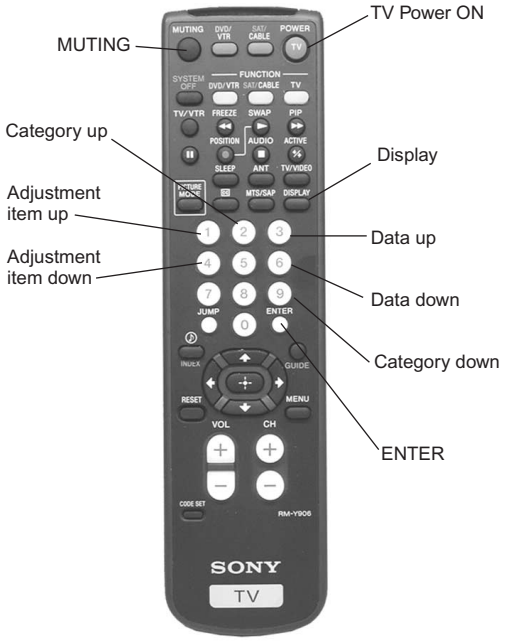
Note: Press “8” then “ENTER” to restore the factory settings for user controls and channel memories (this will also turn set off and then on to exit the service mode).

2-9-2. MEMORY WRITE CONFIRMATION METHOD

1. After adjustment, remove the plug from the AC outlet, and then replace the plug in the AC outlet again.
2. Turn the power switch ON and enter the Service Mode.
3. Cycle through the adjusted items again and confirm that the adjustments were saved.

2-9-3. ADJUSTING BUTTONS AND INDICATOR

Note: When the PJE mode (which displays an internally generated signal) is activated, several buttons on the remote commander will have different functions than the ones listed above. Therefore, when in the PJE mode, refer to section 2-10 for button functions.



RM-Y906

2-9-4. SERVICE MODE LISTS

VPNT (Video Processor NTSC)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	SERVICE DATA NAME	ADJUSTM'T SETTING
0	VPOS	0-63	(24)	V POSITION	VARIABLE
1	VSIZ	0-63	(30)	V SIZE	VARIABLE
2	VCOM	0-3	0	V COMP	FIXED
3	VLIN	0-15	(10)	V LINEARITY	VARIABLE
4	VSCO	0-15	7	V SCURVE CORRECTION	FIXED
5	HPOS	0-15	7	H POSITION	FIXED
6	HSIZ	0-63	(26)	H SIZE	VARIABLE
7	PAMP	0-63	(20)	PIN AMP	VARIABLE
8	UPIN	0-15	(7)	UPPER CORNER PIN DISTORTION	VARIABLE
9	LPIN	0-15	(7)	LOWER CORNER PIN DISTORTION	VARIABLE
10	PPHA	0-15	(7)	PIN PHASE	VARIABLE
11	AFC	0-3	2	AFC LOOP GAIN	FIXED
12	VBOW	0-15	7	V BOW	FIXED
13	VANG	0-15	7	V ANGLE	FIXED
14	REF	0-3	3	REFERENCE PULSE POSITION	FIXED
15	RDRV	0-63	(31)	RED DRIVE GAIN	VARIABLE
16	BDRV	0-63	(31)	BLUE DRIVE GAIN	VARIABLE
17	RCUT	0-15	(7)	RED CUTOFF	VARIABLE
18	BCUT	0-15	(7)	BLUE CUTOFF	VARIABLE
19	SCON	0-15	(7)	SUB CONTRAST	VARIABLE
20	SHUE	0-15	(9)	SUB HUE	VARIABLE
21	SCOL	0-15	(9)	SUB COLOR	VARIABLE
22	CDM2	0,1	0	COUNT DOWN MODE2	FIXED
23	DPIX	0,1	1	DYNAMIC PICTURE	FIXED
24	NOTC	0,1	0	Y CHROMA TRAP	FIXED
25	CROM	0-15	7	CHROMA TRAP F0	FIXED
26	TOT	0,1	0	CHROMA TOT FILTER	FIXED
27	SHPF	0-3	2	SHARPNESS F0	FIXED
28	RON	0,1	1	RED ON	FIXED
29	GON	0,1	1	GREEN ON	FIXED
30	BON	0,1	1	BLUE ON	FIXED
31	DCOL	0,1	1	DYNAMIC COLOR	FIXED
32	CDMD	0,1	0	V COUNT DOWN	FIXED
33	LBLK	0-15	13	LEFT-SIDE BLANK WIDTH	FIXED
34	RBLK	0-15	13	RIGHT-SIDE BLANK WIDTH	FIXED
35	PREC	0-3	1	PRE OVER LEVEL FOR COMP .V IN	FIXED
36	PREY	0-3	1	PRE OVER LEVEL FOR Y IN	FIXED

( )= PREWRITE DATA

VPNV (Video Processor NTSC Vivid)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	SERVICE DATA NAME	ADJUSTM'T SETTING
0	SBRV	0-63	(35)	SUB BRIGHTNESS FOR VIVID	VARIABLE
1	GMMV	0-3	2	GAMMA LEVEL FOR VIVID	FIXED
2	YDCV	0,1	1	Y-DC TRANSFER RATIO FOR VIVID	FIXED
3	ABLV	0,1	1	ABL MODE FOR VIVID	FIXED
4	AXIV	0,1	0	AXIS R-Y,G-Y FOR VIVID	FIXED

( ) = PREWRITE DATA

VPNS (Video Processor NTSC Standard)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	SERVICE DATA NAME	ADJUSTM'T SETTING
0	SBRS	0-63	43T (29), 48V (23) 53V (30), 61V (27)	SUB BRIGHTNESS FOR STANDARD	VARIABLE
1	GMMS	0-3	0	GAMMA LEVEL FOR STANDARD	FIXED
2	YDCS	0,1	0	Y-DC TRANSFER RATIO FOR STANDARD	FIXED
3	ABLS	0,1	1	ABL MODE FOR STANDARD	FIXED
4	AXIS	0,1	0	AXIS R-Y,G-Y FOR STANDARD	FIXED

( ) = PREWRITE DATA

PJED (Projection TV Engine)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	SERVICE DATA NAME	ADJUSTM'T SETTING
0	FDIS	0,1	0	SELECT REGI DATA DISPLAY OF FINE ADJ	FIXED
1	OSDH	1-255	32	PJED SERVICE MENU H POSITION	FIXED
2	OSDV	1-255	25	PJED SERVICE MENU V POSITION	FIXED
3	FVST	0-255	29	LINE NUMBER OF FINE ADJUST START	FIXED
4	V1ST	0-255	0	V1 START DATA	FIXED
5	V1CU	0-255	62	V1 COUNT UP DATA	FIXED
6	COHP	0-255	0	H-PHASE OF ROUGH ADJ	FIXED
7	FIHP	0-255	194	H-PHASE OF FINE ADJ	FIXED
8	TPHP	0-255	61	H-PHASE OF TEST PATTERN	FIXED
9	DFHP	0-255	225	H-PHASE OF DYNAMIC FOCUS	FIXED
10	DFHG	-128-127	-80	H-2 GAIN OF DYNAMIC FOCUS	FIXED
11	DFVG	-128-127	-30	V-2 GAIN OF DYNAMIC FOCUS	FIXED
12	PWM I	0-255	0	PWM I	FIXED
13	PWM2	0-255	30	H-PHASE OF AUTO REGI TEST PATTERN	FIXED
14	HBLD	0-255	238	H-PHASE OF RETURNED BLUE V LINE	FIXED
15	HBLW	0-63	23	PULSE WIDTH OF RETURNED BLUE V LINE	FIXED
16	BLKP	0-255	27	START BLANK PULSE	FIXED
17	COGV	-128-127	0	GREEN V CENT OFFSET DATA OF AUTO REGI	FIXED
18	CORV	-128-127	0	RED V CENT OFFSET DATA OF AUTO REGI	FIXED
19	COBV	-128-127	0	BLUE V CENT OFFSET DATA OF AUTO REGI	FIXED
20	COGH	-128-127	0	GREEN H CENT OFFSET DATA OF AUTO REGI	FIXED
21	CORH	-128-127	0	RED H CENT OFFSET DATA OF AUTO REGI	FIXED
22	COBH	-128-127	0	BLUE H CENT OFFSET DATA OF AUTO REGI	FIXED
23	SOGV	-128-127	0	GREEN V SKEW OFFSET DATA OF AUTO REGI	FIXED
24	SORV	-128-127	0	RED V SKEW OFFSET DATA OF AUTO REGI	FIXED
25	SOBV	-128-127	0	BLUE V SKEW OFFSET DATA OF AUTO REGI	FIXED
26	SOGH	-128-127	0	GREEN H SKEW OFFSET DATA OF AUTO REGI	FIXED
27	SORH	-128-127	0	RED H SKEW OFFSET DATA OF AUTO REGI	FIXED
28	SOBH	-128-127	0	BLUE H SKEW OFFSET DATA OF AUTO REGI	FIXED
29	ERR	FIXED	0	AUTO REGI ERROR CODE	FIXED
30	ADTM	0-255	144	TIMING TO GET A/D DATA OF AUTO REGI	FIXED
31	VUP	1-255	1	AUTO REGI PATTERN UPPER V POSITION	FIXED
32	VMID	1-255	104	AUTO REGI PATTERN MIDDLE V POSITION	FIXED
33	VLOW	1-255	208	AUTO REGI PATTERN LOWER V POSITION	FIXED
34	HPR	1-510	1	AUTO REGI PATTERN H POSITION	FIXED
GRN	CENT	-512-511	(000 / 000)	GREEN H/V CENT	VARIABLE
	SKEW	-512-511	(000 / 000)	GREEN H/V SKEW	VARIABLE
	SIZE	-512-511	(-50/-200)	GREEN H/V SIZE	VARIABLE
	LIN	-512-511	(xxx / xxx)	GREEN H/V LIN	VARIABLE
	KEY	-512-511	(xxx / xxx)	GREEN H/V KEY	VARIABLE
	PIN	-512-511	(xxx / 230)	GREEN H/V PIN	VARIABLE
BLU	CENT	-512-511	(000 / 000)	BLUE H/V CENT	VARIABLE
	SKEW	-512-511	(000 / -000)	BLUE H/V SKEW	VARIABLE
	SIZE	-512-511	(-050/-225)	BLUE H/V SIZE	VARIABLE
	LIN	-512-511	(-150/xxx)	BLUE H/V LIN	VARIABLE
	KEY	-512-511	(xxx/-100)	BLUE H/V KEY	VARIABLE
	PIN	-512-511	(xxx/200)	BLUE H/V PIN	VARIABLE
RED	CENT	-512-511	(000/000)	RED H/V CENT	VARIABLE
	SKEW	-512-511	(000/000)	RED H/V SKEW	VARIABLE
	SIZE	-512-511	(-050/-210)	RED H/V SIZE	VARIABLE
	LIN	-512-511	(150/xxx)	RED H/V LIN	VARIABLE
	KEY	-512-511	(xxx/100)	RED H/V KEY	VARIABLE
	PIN	-512-511	(xxx/225)	RED H/V PIN	VARIABLE

( ) = PREWRITE DATA
XXX: CANNOT CHANGE

ID (Identification)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	SERVICE DATA NAME	ADJUSTM'T SETTING
0	SERS	0-3	1	SERIES ID	FIXED
1	LPWR	0-3	0	LAST POWER MEMORY	FIXED
2	LANG	0-3	0	LANGUAGE	FIXED

CCD (Closed Caption Decoder)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	SERVICE DATA NAME	ADJUSTM'T SETTING
0	CCHP	0-63	38	OSD H POSI INDEX & CC/XD	FIXED
1	CCHN	0-63	29	NO FUNCTION	FIXED

OP (Option)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	SERVICE DATA NAME	ADJUSTM'T SETTING
0	DISP	0-63	(9)	OSD H POSITION	VARIABLE
1	FWI	0-7	2	FIELD1 WINDOW	FIXED
2	FW2	0-7	3	FIELD2 WINDOW	FIXED
3	IDXT	0-255	2	MOTION PERIOD /INDEX	FIXED

3DCM (3D Comb Filter)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	SERVICE DATA NAME	ADJUSTM'T SETTING
0	NRMD	0-3	0	NOISE REDUCER MODE	FIXED
1	DYCO	0-15	2	DY CORING LEVEL SETTING	FIXED
2	DYGA	0-15	10	DY GAIN SETTING	FIXED
3	DCCO	0-15	5	DC CORING LEVEL SETTING	FIXED
4	DCGA	0-15	5	DC GAIN SETTING	FIXED
5	SELD	0,1	1	SELECT DY SIGNAL FILTER	FIXED
6	D2GA	0-7	4	DY/C 2nd GAIN SETTING	FIXED
7	VTRH	0-3	1	VTR HSYNC HYSTERESIS SETTING	FIXED
8	VTRR	0-3	1	VTR HSYNC REFERENCE SETTING	FIXED
9	LDSR	0-3	2	LD SIGNAL REFERENCE	FIXED
10	VAPG	0-7	5	V APERTURE GAIN	FIXED
11	VAPI	0-31	11	V APERTURE INVERT POINT	FIXED
12	YPFT	0-3	0	Y PEAKING FILTER TAP	FIXED
13	YPFG	0-15	9	Y PEAKING FILTER GAIN	FIXED
14	V1PS	0-3	2	VERTICAL 1-LINE SELECTOR	FIXED
15	VEGS	0-3	1	VERTICAL EDGE SELECTOR	FIXED
16	CC3N	0,1	0	C SIGNAL 3-LINE COM FILTER	FIXED
17	HDP	0-7	4	HD HORIZONTAL PHASE	FIXED
18	CDL	0-7	5	C DELAY	FIXED
19	HSSL	0-15	12	H SYNC SLICE LEVEL	FIXED
20	VSSL	0-15	8	V SYNC SLICE LEVEL	FIXED
21	HPLF	0,1	1	H PLL FILTER	FIXED
22	BPLF	0,1	0	BURST PLL FILTER	FIXED
23	FSCF	0,1	1	FSC FILTER GAIN	FIXED
24	PLFG	0,1	1	PLL FILTER GAIN	FIXED
25	EXAD	0,1	0	EXTERNAL AD IN	FIXED
26	MSS	0,1	0	FORCED MOTION SIGNAL	FIXED
27	COUT	0-3	3	C SIGNAL OUTPUT	FIXED
28	YAPS	0-3	1	Y APERTURE	FIXED
29	NSDS	0-3	0	NON STD SIGNAL DETECT.	FIXED
30	CPP	0-3	2	CLAMP PULSE & AD RANGE	FIXED
31	YHCO	0-3	1	Y HIGH FREQ.SIGNAL CORING	FIXED
32	KILR	0-15	3	KILLER REFERENCE	FIXED
33	BGPS	0-15	4	BGP START POSITION	FIXED
34	BGPW	0-15	10	BGP WIDTH	FIXED
35	ADCL	0-3	1	AD CLOCK DELAY	FIXED
36	PWRF	0,1	0	PULSE WIDTH REFERENCE	FIXED
37	YHCG	0,1	0	Y HIGH FREQ.SIGNAL CORING 1/2 GAI	FIXED
38	CKG2	0,1	1	CLOCK GENERATOR TEST BIT N	FIXED
39	CKGE	0,1	0	CLOCK GENERATOR TEST BIT	FIXED
40	NSDS	0,1	0	NON STD SIGNAL DETECT	FIXED
41	SYPD	0,1	0	MEMORY POWER DOWN	FIXED
42	CNRO	0,1	0	CHROMA NOISE REDUCT TEST BIT	FIXED
43	YNRK	0,1	0	Y NOISE REDUCT FILTER GAIN	FIXED
44	YNRI	0,1	0	Y NOISE REDUCT FILTER CONV.	FIXED
45	YNRL	0-3	1	Y NOISE REDUCT FILTER LIMIT	FIXED
46	CNRK	0,1	0	CHR. NOISE REDUCT FILTER GAIN	FIXED
47	CNRI	0,1	0	CHR. NOISE REDUCT FILTER CONV.	FIXED
48	CNRL	0-3	1	CHROMA NOISE REDUCT LIMIT	FIXED
49	WSC	0-3	1	NOISE DETECTION CORING	FIXED

TONE (Tone Control)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	SERVICE DATA NAME	ADJUSTM'T SETTING
0	RBAS	0-63	61V (39) Others (31)	RESET VALUE BASS DATA	VARIABLE
1	RTRE	0-63	61V (35) Others (31)	RESET VALUE TREBLE DATA	VARIABLE
2	BBEH	0-15	10	BBE HIGH FREQUENCY	FIXED
3	BBEL	0-11	6	BBE LOW FREQUENCY	FIXED
4	LOOP	7	1	LOOP EFFECT	FIXED
5	SUFE	7	1	SURROUND EFFECT	FIXED

DAC (D/A Converter)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	SERVICE DATA NAME	ADJUSTM'T SETTING
0	UVSH	0-63	31	YUV SUB HUE	FIXED
1	UVSC	0-63	31	YUV SUB COLOR	FIXED

PIP (Picture In Picture)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	SERVICE DATA NAME	ADJUSTM'T SETTING
0	FSEL	0-3	0	FIELD SELECT	FIXED
1	VACQ	0-15	2	VERTICAL ACQUISITION	VARIABLE
2	HACQ	0-15	4	HORIZONTAL ACQUISITION	VARIABLE
3	ISYS	0-3	0	INSET DISPLAY SYSTEM	FIXED
4	PSYS	0-3	0	PARENT SYSTEM	FIXED
5	FACT	0,1	0	FRAME MODE ACTIVATION	FIXED
6	HZM	0-7	0	HORIZONTAL ZOOM	FIXED
7	VPNR	0,1	0	V SYNC PULSE NOISE REDUCT	FIXED
8	VPDL	0-31	8	VERT SYNC PULSE DELAY	FIXED
9	FRSL	0,1	0	FRAME SELECT	FIXED
10	FRWH	0-7	2	FRAME WIDTH HORIZONTAL	FIXED
11	FRWV	0-3	1	FRAME WIDTH VERTICAL	FIXED
12	VERB	0,1	0	VERTICAL BLANKING MODE	FIXED
13	SELD	0-15	0	SELECT DELAY	FIXED
14	PCOR	0,1	1	POSITION CORRECTION	FIXED
15	CLDL	0-31	0	CLAMPING DELAY	FIXED
16	CLMD	0-3	3	CLAMPING DURATION	FIXED
17	CLMS	0-3	2	CLAMPING PULSE START	FIXED
18	POFV	0-7	(1)	POS. OFFSET FINE V VAR.	VARIABLE
19	POFH	0-31	(2)	POS. OFFSET FINE H VAR.	VARIABLE
20	VSHK	0-31	0	VERTICAL SHRINK	FIXED
21	HSHK	0-31	0	HORIZONTAL SHRINK	FIXED
22	CLPL	0-3	0	CLAMPING PULSE LENGTH	FIXED
23	REFI	0,1	0	REFRESH INTERVAL	FIXED

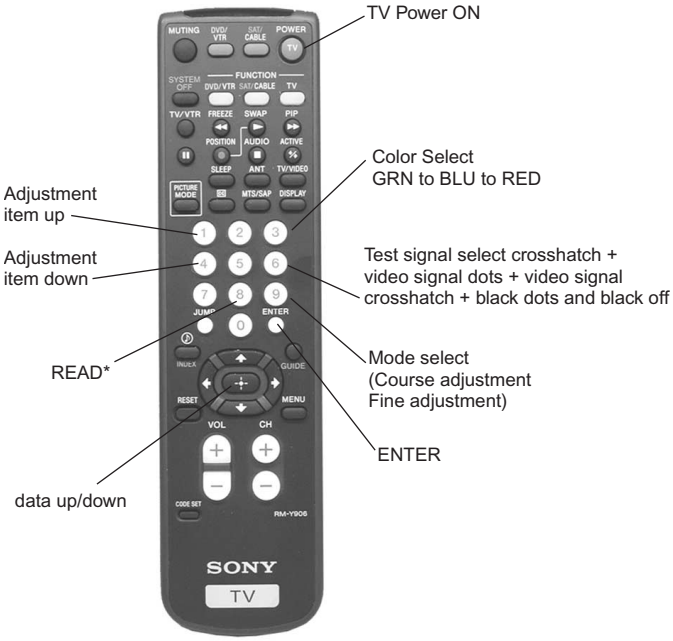
( ) = PREWRITE DATA

PYC

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STD DATA	SERVICE DATA NAME	ADJ. SETTING
0	PSCN	0-15	(8)	PIP SUB CONTRAST	VARIABLE
1	PSC4	0-15	5	PIP SUB CONTRAST FOR VIDEO 4	FIXED
2	PHUE	0-63	(32)	PIP SUB HUE	VARIABLE
3	PCOL	0-15	(8)	PIP SUB COLOR	VARIABLE
4	PCL4	0-15	9	PIP SUB COLOR FOR VIDEO 4	FIXED
5	PBRT	0-15	1	PIP BRIGHTNESS	FIXED
6	PBT4	0-15	1	PIP BRIGHTNESS FOR VIDEO 4	FIXED
7	PYDR	0-255	192	PIP Y DRIVE	FIXED
8	PYD4	0-255	192	PIP Y DRIVE FOR VIDEO 4	FIXED
9	PUDR	0-255	180	PIP U DRIVE	FIXED
10	PUD4	0-255	180	PIP U DRIVE FOR VIDEO 4	FIXED
11	PVDR	0-255	120	PIP V DRIVE	FIXED
12	PVD4	0-255	120	PIP V DRIVE FOR VIDEO 4	FIXED
13	PYPD	0-15	1	PIP Y PEDESTAL	FIXED
14	PUPD	0-31	(15)	PIP U PEDESTAL	VARIABLE
15	PVPD	0-31	(15)	PIP V PEDESTAL	VARIABLE
16	AGCR	0,1	0	AUTO GAIN CONTROL RESET	FIXED
17	AGCM	0-3	3	AUTO GAIN CONTROL MODE	FIXED
18	AGCV	0-15	12	AUTO GAIN CONTROL VALUE	FIXED
19	AGC4	0-15	12	AUTO GAIN CNTRL FOR VIDEO 4	FIXED
20	LMOF	0-3	3	LUMINANCE OFFSET	FIXED
21	PLLI	0-3	0	INSET PLL TIME CONSTANT	FIXED
22	NRPL	0-3	0	NOISE REDUCTION INSET PLL	FIXED
23	PYDL	0-15	0	PIP Y/C DELAY	FIXED
24	CSTD	0-7	1	COLOR STANDARD	FIXED
25	CEXC	0-3	1	COLOR STANDARD EXCLUSION	FIXED
26	LKSP	0,1	0	STANDARD ID SPEED	FIXED
27	CKIL	0-3	0	COLOR KILLER THRESHOLD	FIXED
28	BGPS	0,1	0	BURST GATE PULSE START POS.	FIXED
29	CLON	0,1	0	COLOR ON	FIXED
30	ACCF	0,1	0	DISABLE AUTO CHROMA CONTROL	FIXED
31	IFFL	0-3	0	IF-COMPENSTATION FILTER	FIXED
32	STNR	0,1	0	SATELLITE NOISE REDUCTION	FIXED
33	FMAC	0,1	0	FRAME MODE ACTIVATION INSET	FIXED
34	CPLL	0,1	0	CHROMA PLL OFF	FIXED
35	SCAD	0-31	7	COLOR SUBCARRIER ADJ.	FIXED
36	FRMY	0-15	5	FRAME Y LEVEL	FIXED
37	YPEK	0-7	7	Y PEAKING ADJUSTMENT	FIXED
38	YCOR	0,1	0	Y CORING ENABLE	FIXED
39	CHBW	0-3	1	CHROMA BANDWIDTH	FIXED

( ) = PREWRITE DATA

2-10. REGISTRATION ADJUSTMENT (PJE) FUNCTION OF BUTTONS OF REMOTE COMMANDER FOR PJE MODE ONLY.

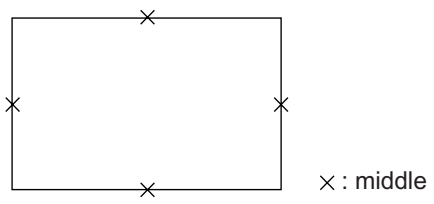


Resetting the set to the factory shipping condition: Press 8. "RESET" appears in green letters on the screen. Then press ENTER. This resets all customer adjustments, channel memories, and channel labels to the factory shipping settings.

Note: Internal patterns are used for geometry and convergence adjustments. However, sizing and centering must be done with the use of an external generator. The recommended pattern would be a monoscope, or equivalent pattern, which would provide the means to adjust both the linearity and the sizing of the picture. A cross-hatch pattern with sizing markers can be used in place of a monoscope.

SETUP FOR ADJUSTMENT

- Current flow in circuit should be stable before attempting adjustment. Wait 5 minutes after turning on power to the set.
- At the 4 sides of the screen, locate the middle. Use a tape measure to identify the middle.



NOTE: The following steps # 1 through 8 are "main" deflection adjustments for sizing and centering. "Main" deflection adjustments affect all three CRTs at the same time. The "sub"-deflection adjustments that follow are made for each CRT individually. If the centering and sizing is performed correctly in "main" deflection adjustments, only minor touchups may required for the green CRT in "sub"-deflection adjustment mode.

A pattern from an external pattern generator **must** be used for the main deflection adjustments.

1. Enter the service mode by quickly pressing the keys on the remote commander in the standby mode in the following order:
   Press "DISPLAY," 5, Volume +, and then "TV POWER"
2. Change from TV mode to video input mode.
3. Input a cross-hatch pattern from an external generator that allows you to properly center and size (over-scan) the pattern.
4. Select adjustment category "VPNT", adjustment item 0 "VPOS". Adjust the data so that the external pattern is centered vertically.
5. Select adjustment category "VPNT", adjustment item 1 "VSIZ". Adjust the data so that the external pattern is correctly sized vertically. "Correctly sized" means that the picture is overscanned by 7.5%, i.e. only 92.5% of the picture is on the viewable area of the screen. Confirm that the pattern is still correctly centered vertically.
6. Select adjustment category "VPNT", adjustment item 5 "HPOS". Adjust the data so that the external pattern is centered horizontally.
7. Select adjustment category "VPNT", adjustment item 6 "VSIZ". Adjust the data so that the external pattern is correctly sized horizontally. "Correctly sized" means that the picture is overscanned by 7.5%, i.e. only 92.5% of the picture is on the viewable area of the screen. Confirm that the pattern is still correctly centered horizontally.
8. Write the new sizing and centering data to memory by pressing "MUTING" and then "ENTER".
9. Change the VPNT mode to "PJE 00 FDIS" (press "2" on the remote until "PJE" appears on the top left corner of the screen). If "FDIS" is not displayed below "PJE", press "4" until it does appear.

```
PJE      00    00
FDIS     I
```

10. Press the remote joystick button up arrow to set the FDIS data to "01" to display the registration data of each area of the screen in the fine adjustment mode.

```
PJE      00    01
FDIS     I
```

11. Press 6 to display the test signal (crosshatch) on the screen.
12. Select GRN CENT(*) with the 1 and 4 keys on the remote commander.

```
         (H)   (V)
GRN      ###   ###
CENT
```

*: In the factory preset, "GRN CENT" appears on the screen first. To change the color to red or blue, press the 3 key.

13. Cover the red and blue picture lenses with lens caps to allow only green to show, or use the method shown in the note below to turn the CRTs off individually.

Display	Adjustment item	Adjustment type		
		G	R	B
		H/V*	H/V*	H/V*
CENT	CENTER	-/-	O/O	O/O
SKEW	SKEW	O/O	O/O	O/O
SIZE	SIZE	-/-	O/O	O/O
LIN	LINEARITY	-/-	O/-	O/-
KEY	KEY STONE	-/-	-/O	-/O
PIN	PIN CUSHION	-/O	-/O	-/O

* H = Horizontal V = Vertical O = Yes - = No

Note: If lens caps are unavailable, you can cut off the unnecessary color beams in the service mode by individually changing the data from "1" to "0" in category VPNT, item 28 RON (red), item 29 GON (green), or item 30 BON (blue).

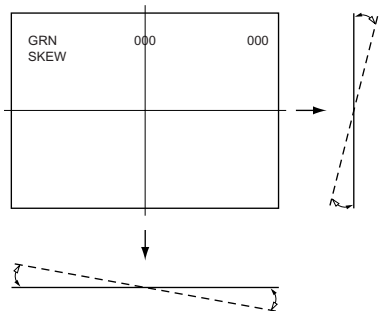
2-11. GREEN REGISTRATION ADJUSTMENT

GREEN CENTER, GREEN SIZE

The sizing and centering that was performed in the previous section (section 2-10) should have correctly sized and centered the green CRT. The sizing and centering (coarse adjustment mode) of the red and blue CRTs in following sections are performed so that the red and blue patterns overlay the green pattern as close as possible prior to the fine mode adjustments. The fine-mode adjustments are made for all 3 colors so that the cross-hatch lines are straight vertically and horizontally, and the linearity and convergence is correct.

GREEN SKEW

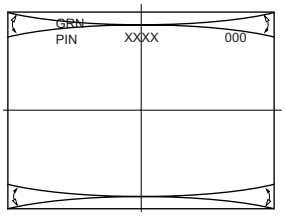
1. Display a cross-hatch pattern from an external generator.
2. Confirm that category "PJE" is selected (refer to step 9 in the previous section, section 2-10).
3. Make sure that only the external pattern is displayed. If the internal cross-hatch is displayed, press the 6 button on the remote until only the external pattern is displayed.
4. Select GRN SKEW with the 1 and 4 buttons on the remote commander.
5. Using the joystick buttons on the remoter commander, adjust the crosshatch lines so that they go straight vertically and horizontally, not slanting.



6. Press "MUTING" then "ENTER" to write the new adjustment data into memory.

GREEN PINCUSHION

1. Select GRN PIN with the 1 and 4 buttons on the remote commander.
2. Adjust the top and bottom crosshatch lines so that they are straight.



Note: These are required when either severe misadjustment or data loss has occurred.

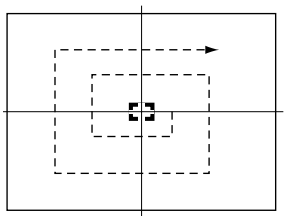
3. Press "MUTING" then "ENTER" to write the new adjustment data into memory.

GREEN FINE ADJUSTMENT

Press "MUTING" then "ENTER" often during the fine adjustment mode to save the adjustment data.

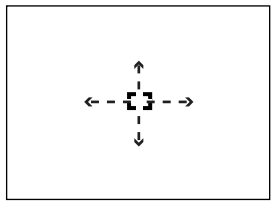
1. Press the 6 button until the external pattern disappears and the TV's internal cross-hatch pattern appears.
2. Press the 9 button on the remote commander to shift to the fine adjustment mode. The green cursor will appear in the center of the screen.
3. Use the 1 and 4 buttons on the joystick on the remote commander to move the cursor (see below) to each area of the screen that you want to adjust, and adjust with the joystick arrow buttons on the remote.

Cursor movement by the 1 and 4 keys:

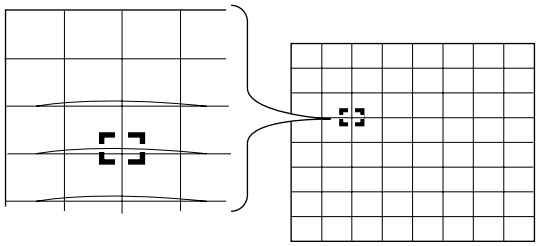


Alternative method of moving the cursor.

Press the joystick center button once which will cause the cursor to change from green to white. When the cursor is white you can move it up or down, left or right, by using the joystick arrow buttons.



4. Press the joystick center button once; the cursor will return to green (or red or blue, depending on the previously selected color). When the cursor is green, you can adjust the geometry of the area surrounding the cursor by using the joystick arrow buttons.



5. Press the 9 button on the remote commander to return to the coarse adjustment mode. If you need to return to the fine mode, just press the 9 button again, and the cursor will change from white to green or blue or red.

6. After the green lines are all straight, press “MUTING” and then “ENTER” to save the adjustment data.

2-12. RED REGISTRATION ADJUSTMENT

RED CENTER, SKEW

1. Cover the blue picture lens with a lens cap to allow green and red to show (or use the method shown in the note below).
2. Press the 3 button on the remote commander to change the GRN mode to the RED mode.
3. Select RED CENT or RED SKEW with the 1 and 4 buttons on the remote commander and adjust while tracking each one alternately.
4. Adjust the red crosshatch lines using the joystick arrow buttons, so that they are straight vertically and horizontally, and overlap the green lines.
5. Press “MUTING” and then “ENTER” to save the adjustment data.

Note: If lens caps are unavailable, you can cut off the unnecessary color beams in the service mode by individually changing the data from “1” to “0” in category VPNT, item 28 RON (red), item 29 GON (green), or item 30 BON (blue).

RED SIZE, LINEARITY

1. Alternately select RED SIZE (vertically and horizontally) or RED LIN (vertically) with the 1 and 4 buttons on the remote commander and adjust while tracking each one alternately.
2. Adjust the red crosshatch lines with the joystick on the remote commander until they are straight vertically and horizontally and they overlap the green lines.

RED KEY, PINCUSHION

1. Select RED KEY or PINCUSHION with the 1 and 4 buttons on the remote commander and adjust each one while tracking each other.
2. Using the joystick arrow buttons, adjust the red crosshatch lines so that they are straight horizontally and vertically, and they overlap the green lines.

Note: These are required when either severe mis-adjustment or data loss occurred.

3. Press “MUTING” and then “ENTER” to save the adjustment data.

FINE ADJUSTMENT

1. Press the 9 button on the remote commander to shift to the fine adjustment mode; the red cursor appears at the center of the screen. If the cursor is not red, press the 3 button until it is red.
2. Use the 1 and 4 buttons on the remote commander to move the cursor to each area of the screen you want to adjust.
3. Press “MUTING” and then “ENTER” to save the adjustment data.

2-13. BLUE REGISTRATION ADJUSTMENT

1. Remove the lens cap from the blue picture lens to show all colors (or use the method shown in the note above to turn on all 3 CRTs).
2. Press the 3 button on the remote commander to shift the RED mode to the BLU mode.
3. Adjust BLU CENT, BLU SKEW, BLU SIZE, BLU LIN, BLU KEY and BLU PIN the same way as the red registration adjustment.

FINAL CHECK- IMPORTANT

This must be performed before leaving the service mode!

1. Store the final adjustment data by pressing MUTING and then ENTER.
2. Press the FLASH FOCUS button on the front panel.
3. If an error message appears, refer to the following.

If an error code is displayed after the set has been correctly adjusted, check the following items: position, tilt and sizing. If any of these adjustments are off, even slightly, the auto-registration pattern will not hit the four sensors properly. This occurs when the internal generator patterns are being flashed on the screen for the sensors to read. Therefore, auto registration (called auto-focus) cannot operate properly, causing an error code to be displayed. In order for this function to operate properly, position, tilt and size must be adjusted properly.

Note: In case of replacing CRTs, adjust the set-up adjustments (items 2-1 to 2-8) and the registration adjustment (item 2-10). In the case of replacing multiple CRTs at the same time, replace and adjust them individually.

2-14. AUTO REGISTRATION ERROR CODE LIST

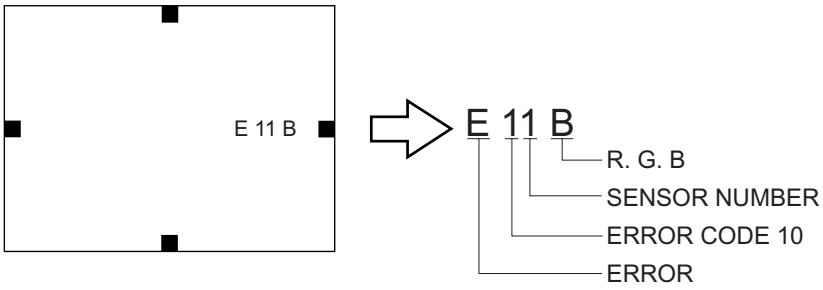
If an error code is displayed after the set has been correctly adjusted, check the following items: position, tilt and sizing. If any of these adjustments are off, even slightly, the auto-registration pattern will not hit the four sensors properly. This occurs when the internal generator patterns are being flashed on the screen for the sensors to read. Therefore, auto registration (called auto-focus) cannot operate properly, causing an error code to be displayed. In order for this function to operate properly, position, tilt and size must be adjusted properly.

ERROR CODE LIST

ERROR CODE	DESCRIPTION	NOTE
00	No Error	
10	Sensor Output Level Low	* Check wiring, beam position, sensor 0 : Upper Center 1 : Middle Left 2 : Middle Right 3 : Lower Center
20	Sensor Output Level High	* Check OP-amp circuit 0 : Upper Center 1 : Middle Left 2 : Middle Right 3 : Lower Center
30	Adjustment Loop Counter Overflow	* Check the registring information on the convergence board
40	Regi Data Overflow	* Check the convergence yoke driver ICs.
50	Regi Data Overflow	
60	Offset Overflow	* Convergence patterns displayed are out of normal range.
70	Offset Overflow	

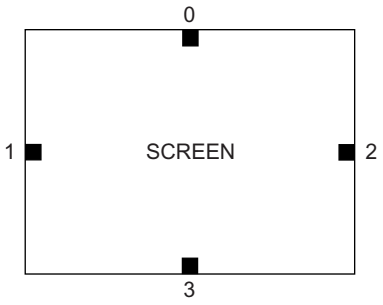
* In the case of multiple errors, last error is displayed.

• ERROR CODE SCREEN DISPLAY



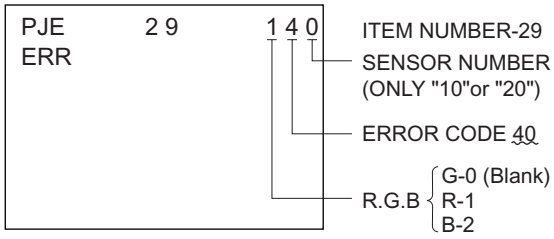
* Error code will be displayed at the center of screen for 3 seconds.

SENSOR POSITION



0 : UPPER SENSOR
1 : LEFT SENSOR
2 : RIGHT SENSOR
3 : LOWER SENSOR

• ERROR CODE DISPLAY DURING AUTO-REGISTRATION IN SERVICE MODE



SECTION 3: SAFETY-RELATED ADJUSTMENTS

G BOARD

3-1. HV REGULATION CIRCUIT CHECK AND ADJUSTMENT

When replacing the following components marked with a ◪ on the schematic diagram always check the HV regulation, and if necessary re-adjust.

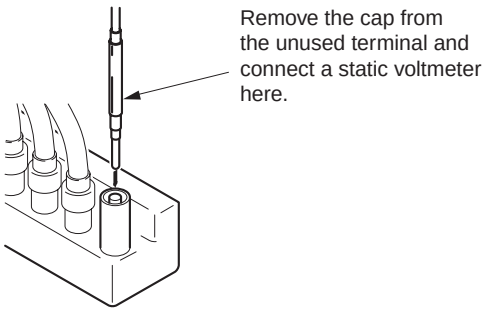
- ⊠ : C517
- ◪ : C517, C521, C522, IC654, L504, T502, T504 (FBT), DY, A board, G board

OPERATION CHECK of 31.0KV +1.0 KV DC/ -2.5 KV DC

1. Connect an HV static voltmeter to the unused socket of the high-voltage block. (Fig. 3-1)
2. Power on the set.
3. Display a dot pattern through the VHF/UHF input (PICTURE and BRIGHTNESS set to minimum)
4. Check that the HV static voltmeter is reading 31.00 KV +1.0 KV DC / -2.5 KV DC.

HV Regulation adjustment

1. Connect a HV static voltmeter to the unused socket of the high-voltage block.
2. Power on the set.
3. Display a dot pattern through the VHF/UHF input (PICTURE and BRIGHTNESS to minimum).
4. If anode voltage is 31.95kV or higher, change the value of C517 from 470pF/2kV to 1,000pF/2kV, and confirm that the high voltage is within the range specified above.
5. If anode voltage is 29.45kV or lower, change the value of C517 from 470pF/2kV to 100pF/2kV, and confirm that the high voltage is within the range specified above.



3-2. HV HOLD DOWN CIRCUIT OPERATION CHECK AND ADJUSTMENT

When replacing the following components marked with a ◪ on the schematic diagram always check the hold-down voltage and re-adjust when necessary.

- ⊠ : R536, R545
- ◪ : C516, C536, D506, D507, D522, IC206, IC502, IC654, L504, R511, R522, R536, R538, R545, R548, R584, T502, T504 (FBT), DY, A board, G board

OPERATION CHECK

1. Unplug connector CN652.
2. Connect an HV static voltmeter to the unused socket of the high-voltage block.
3. Connect a 220Ω/200W resistor, across pin 2 and pin 1 of CN652, and connect an external DC power supply (200V, class 2A) to pin 3 of CN652.
4. First, turn on the external power supply (+B=135V), then turn on the power to the set.
5. Display a dot pattern through the VHF/UHF input (PICTURE and BRIGHTNESS to minimum).
6. Gradually increase the value of the external DC power supply and check that the hold-down circuit operates at a static HV voltmeter reading of 33.5±1.0kVdc when the set shuts down.
7. Remove AC power from the set, then remove the 220Ω/200W resistor and reconnnect CN652.

HV HOLD-DOWN ADJUSTMENT

1. Repeat steps 1-8 above.
2. If hold-down voltage is 34.5kV or higher, remove R536, mount a resistor (150kΩ, 1/4W : RN) onto R545 instead, and check again if the hold-down voltage is within the standard range.
3. If hold-down voltage is 32.5kV or lower, mount a resistor (220kΩ, 1/4W : RN) onto R536 and check again if the hold-down voltage is within the standard range.

NOTE: Finish the adjustment as soon as possible.

3-3.+B MAX VOLTAGE CONFIRMATION

The following adjustments should always be performed when replacing IC654.

1. Supply 130V +/- 2V AC to the set.
2. Display a dot pattern through the video-1 input.
3. Set the PICTURE control and the BRIGHTNESS control to minimum.
4. Confirm the voltage of G BOARD test point TP135V is less than 137.0Vdc.
5. If step 4 is not satisfied, replace IC654 and repeat above steps.

3-4.+B OVP CONFIRMATION

1. Connect the voltmeter between test point TP OVP and ground.
2. Supply 120VAC to the set using an isolation transformer.
3. Set an adjustable external 150-Volt DC power supply to 120 VDc, and connect it to test point OVP.
4. Power on the set.
5. Set PICTURE and BRIGHTNESS controls to minimum.
6. Gradually adjust the external DC supply towards 150 VDc, and make sure the set shuts down when the external supply's voltage is between 139 VDC and 159 VDC.

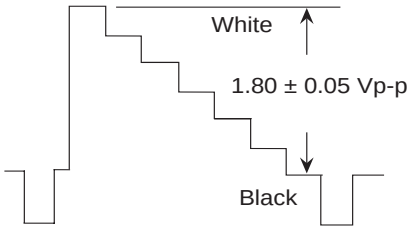
SECTION 3: CIRCUIT ADJUSTMENTS

4-1.TV INPUT SUB CONTRAST ADJUSTMENT (VPNT-SCON)

1. Display a color bar signal through the TV's VHF/UHF input.
2. Mode: Personal 1 or 2

   PICTURE: maximum COLOR: minimum

   BRIGHTNESS: center COLORTEMP: neutral
3. Enter the service mode.
4. Turn off the blue and red CRTs by changing the data from "1" to "0" in category VPNT item 28 RON (red), and item 30 BON (blue). If this step is not followed, the ABL circuit may prevent you from adjusting the peak-to-peak amplitude to 1.8 V.
5. Connect an oscilloscope between pin 7 of CN204 (A board) and ground.
6. Select adjustment category "VPNT" adjustment item 19 "SCON", and adjust using the 3 or 6 button on the remote so that the wave form level is 1.80 ± 0.05Vp-p.



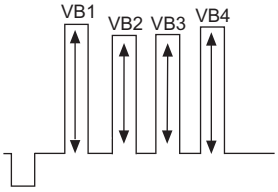
7. Press "MUTING" and then "ENTER" to save the adjustment data.

4-2.VIDEO INPUT SUB-HUE AND SUB-COLOR ADJUSTMENT (VPNT-SHUE, SCOL)

1. Display a color bar signal through a video input.
2. Mode: Personal 1 or 2

   PICTURE: maximum COLOR: center

   BRIGHTNESS: center COLORTEMP: neutral
3. Enter the service mode.
4. Connect an oscilloscope between pin 5 of CN204 (A board) and ground.
5. Alternately select adjustment category "VPNT" adjustment item #20 "SHUE" and item #21 "SCOL", and adjust them so that VB1 = VB4, and VB2 = VB3 as shown below.



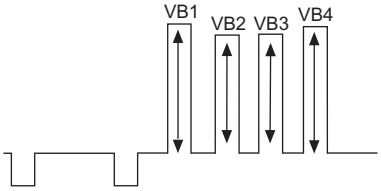
6. Add 2 to the adjusted value of "SCOL".
7. Press "MUTING" and then "ENTER" to save the adjustment data.

4-3.COMPONENT INPUT SUB-HUE AND SUB-COLOR ADJUSTMENT (DAC-UVSH, UVSC)

1. Select VIDEO 4 and display a color bar signal.
2. Mode: Personal 1 or 2

   PICTURE: maximum COLOR: center

   BRIGHTNESS: center COLORTEMP: neutral
3. Enter the service mode.
4. Connect an oscilloscope between pin 5 of CN204 (A board) and ground.
5. Alternately select adjustment category "DAC", adjustment item # 0 "UVSH" and item #1 "UVSC" and adjust them so that VB1 = VB4 and VB2 = VB3 as shown below.



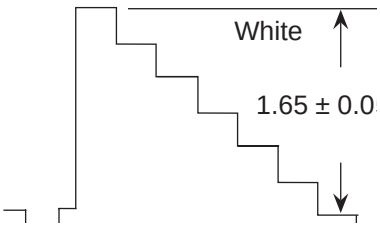
6. Press "MUTING" and then "ENTER" to save the adjustment data.

4-4.PIP SUB CONTRAST ADJUSTMENT (PYC-PSCN)

1. Display a color bar signal through the TV's VHF/UHF input.
2. Mode: Personal 1 or 2

   PICTURE: maximum COLOR: minimum

   BRIGHTNESS: center COLORTEMP: neutral
3. Enter the service mode, and then select the PIP (Picture-in-Picture) mode.
4. Select an unused video input for the main picture (it must be black), and select the tuner for the small picture (it must be showing colorbars).
5. Connect an oscilloscope between pin 7 of CN204 (A board) and ground.
6. Select adjustment category "PYC", adjustment item # 0 "PSCN" and adjust so that the peak-to-peak voltage is 1.65 ± 0.05Vp-p as shown below.



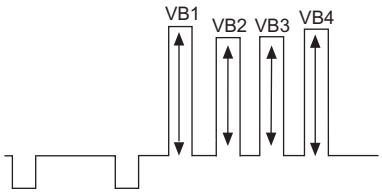
7. Press "MUTING" and then "ENTER" to save the adjustment data.

4-5.PIP SUB-HUE , SUB-COLOR ADJUSTMENT (PYC-PHUE, PYC-PCOL)

1. Display a color bar signal through the TV's VHF/UHF input.
2. Mode: Personal 1 or 2.

   PICTURE: maximum COLOR: center

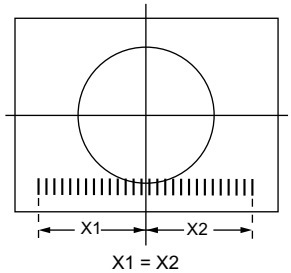
   BRIGHTNESS: center COLORTEMP: neutral
3. Enter the service mode and select the PIP mode.
4. Connect an oscilloscope between pin 5 of CN204 (A board) and ground.
5. Select an unused video input for the main picture (it **must** be black), and select the tuner for the small picture (it **must** be showing colorbars).
6. Alternately select adjustment category "PYC", adjustment item # 2 "PHUE" and item #3 "PCOL" and adjust them so that VB1 = VB4 and VB2 = VB3 as shown below.



7. Press "MUTING" and then "ENTER" to save the adjustment data.

4-6.USER-CONTROL BAR GRAPH DISPLAY POSITION ADJUSTMENT (OP-DISP)

1. Select the video-1 input with no signal applied (the screen should be black).
2. Enter the service mode.
3. Press the "Volume +" button so that the volume bar graph is displayed.
4. Check to make sure the bar graph is centered on the screen horizontally. If necessary, select adjustment category "OP", adjustment item # 0 "DISP", and adjust so that the bar graph is centered. Adjust the data 1 step at a time, and then display the bar graph again to check its position.



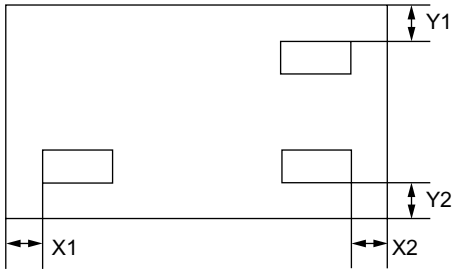
5. Write the data into memory, press "MUTING" and then "ENTER".

4-7.PIP POSITION ADJUSTMENT (PIP-POFV, POFH)

1. Select the PIP mode.
2. Display any signal in the PIP window.
3. Alternately select adjustment category "PIP", adjustment item # 18 "POFV" and item #19 "POFH" and adjust so that the PIP window is equally spaced from the screen edge in each position on the screen as shown below. Use the POSITION button on the remote to change the screen position of the PIP window.

X1-X2 ≤ 0.25 sq

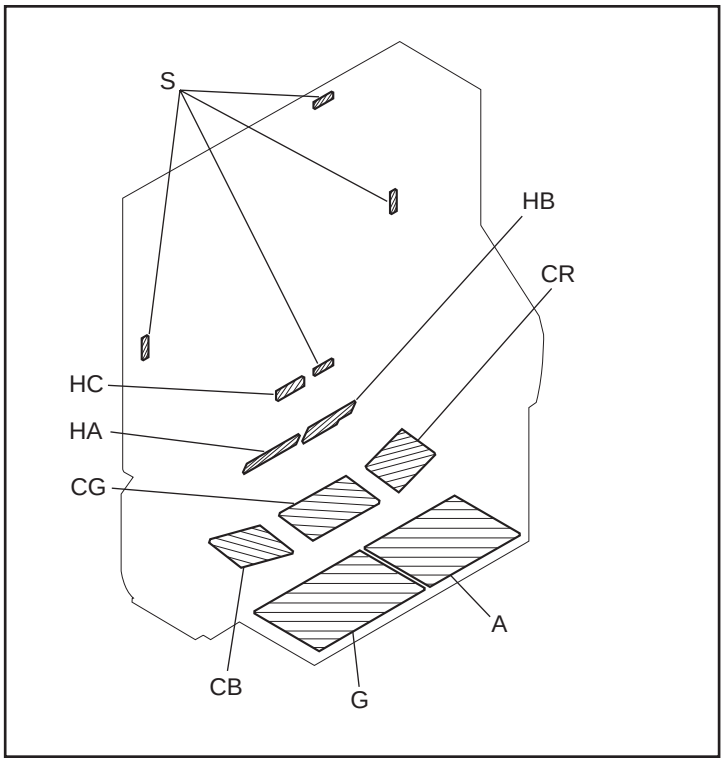
Y1-Y2 ≤ 0.25 sq



4. Write the data into memory, press "MUTING" and then "ENTER".

SECTION 5: DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION



5-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS INFORMATION

All capacitors are in µF unless otherwise noted. pF : µµF 50WV or less are not indicated except for electrolytics and tantalums.

All electrolytics are in 50V unless otherwise specified.

All resistors are in ohms. K=1000, M=1000k

Indication of resistance, which does not have one for rating electrical power, is as follows: Pitch : 5mm
Rating electrical power : $^1/_4$ W

$^1/_4$ W in resistance, $^1/_{10}$ W and $^1/_8$ W in chip resistance.

: nonflammable resistor.

: fusible resistor.

△ : internal component.

: panel designation and adjustment for repair.

All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

Readings are taken with a NTSC color-bar signal input.

Readings are taken with a 10M digital multimeter.

Voltages are DC with respect to ground unless otherwise noted.

Voltage variations may be noted due to normal production tolerances.

All voltages are in V.

S : Measurement impossibility.

: B+ line

: B-line. (Actual measured value may be different).

: signal path. (RF)

Circled numbers are waveform references.

The components identified by ⋈ in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be necessary, replace only with the value originally used.

When replacing components identified by ◪, make the necessary adjustments as indicated. If the results do not meet the specified value, change the component identified by ⋈ and repeat the adjustment until the specified value is achieved.

(Refer to adjustments in Sections 3-1 and 3-2.)

When replacing the parts listed in the table below, it is important to perform the related adjustments.

Part Replaced (◪)	Adjustment (⋈)
A board, G board, C517, C521, C522, IC654, L504, T502, T504, DY,	HV Regulator (C517)
A board, G board, C516, C517, C521, C522, C536, D506, D507, D522, IC206, IC502, IC654, L504, R511, R522, R536, R538, R545, R548, R584, T502, T504, DY	HV HOLD-DOWN (R536, R545)

REFERENCE INFORMATION

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: ※	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

The components identified by shading and ⚠ symbol are critical for safety. Replace only with part number specified.

The symbol ▬▭▬ indicates a fast operating fuse and is displayed on the component side of the board. Replace only with fuse of the same rating as marked.

Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

Le symbole ▬▭▬ indique une fusible a action rapide. Doit etre remplace par une fusible de meme yaleur, comme maque.

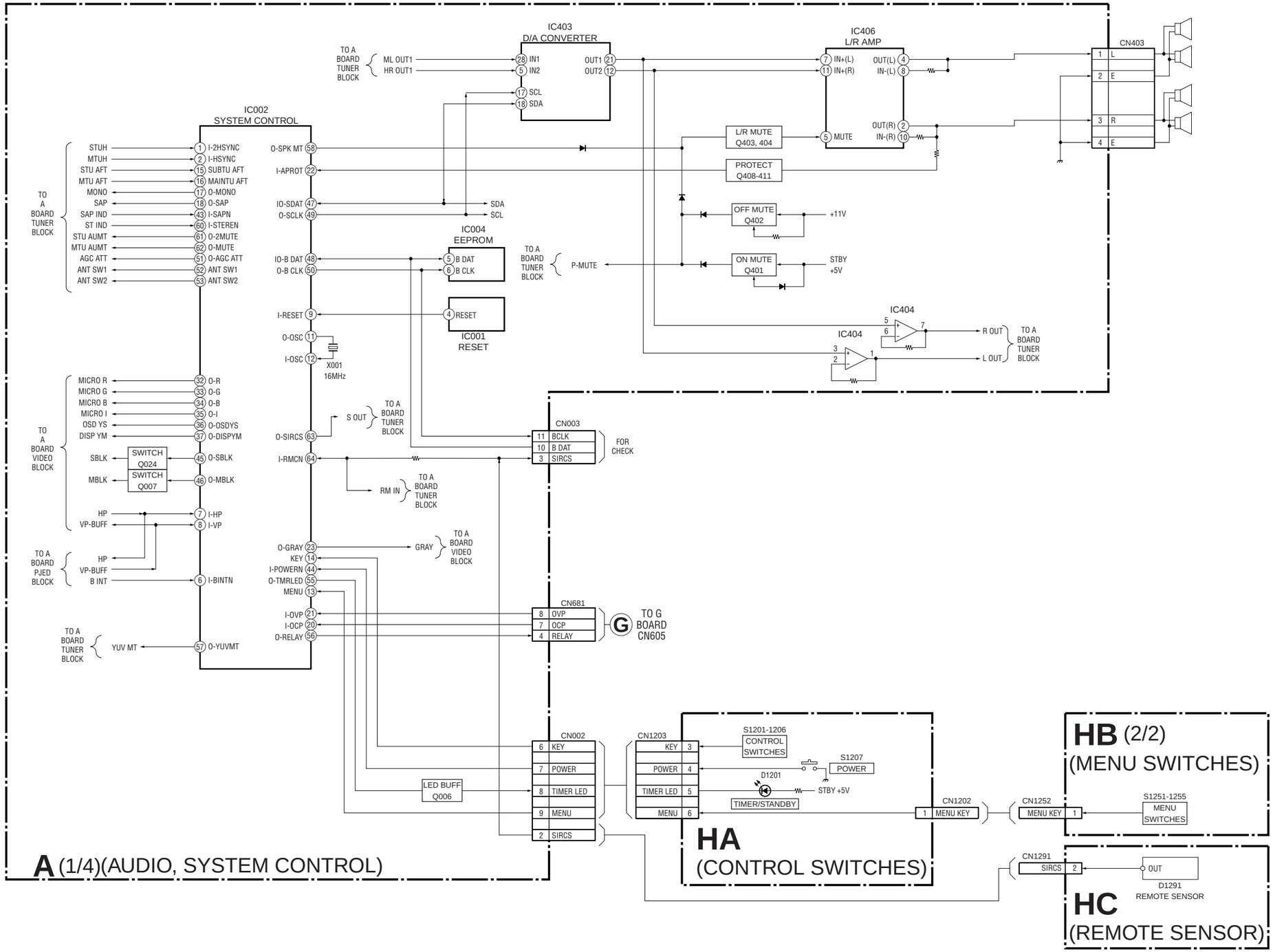
Terminal name of semiconductors in silk screen printed circuit (*)

	Device	Printed symbol	Terminal name	Circuit
①	Transistor		Collector / Base Emitter	
②	Transistor		Collector / Base Emitter	
③	Diode		Cathode – Anode	
④	Diode		Cathode / Anode (NC)	
⑤	Diode		Cathode / Anode (NC)	
⑥	Diode		Common / Anode Cathode	
⑦	Diode		Common / Anode Cathode	
⑧	Diode		Common / Anode Anode	
⑨	Diode		Common / Anode Anode	
⑩	Diode		Common / Cathode Cathode	
⑪	Diode		Common / Cathode Cathode	
⑫	Diode		Anode Cathode / Anode Anode / Cathode Anode	
⑬	Transistor (FET)		Drain Source Gate	
⑭	Transistor (FET)		Drain Source Gate	
⑮	Transistor (FET)		Source Drain Gate	
⑯	Transistor		Emitter Collector Base	
⑰	Transistor		C2 B1 E1 / E2 B2 C1	
⑱	Transistor		C1 B2 E2 / E1 B1 C2	
⑲	Transistor		C1 B2 E2 / E1 B1 C2	
⑳	Transistor		C1 B2 E2 / E1 B1 C2	
㉑	Transistor		E2 B1 E1 / C2 C1(B2)	
㉒	Transistor		(B2) B1 E1 E2 / C1 C2	
㉓	Transistor		(B2) E2 E1 B1 / C2 C1	
-	Discrete semiconductor			

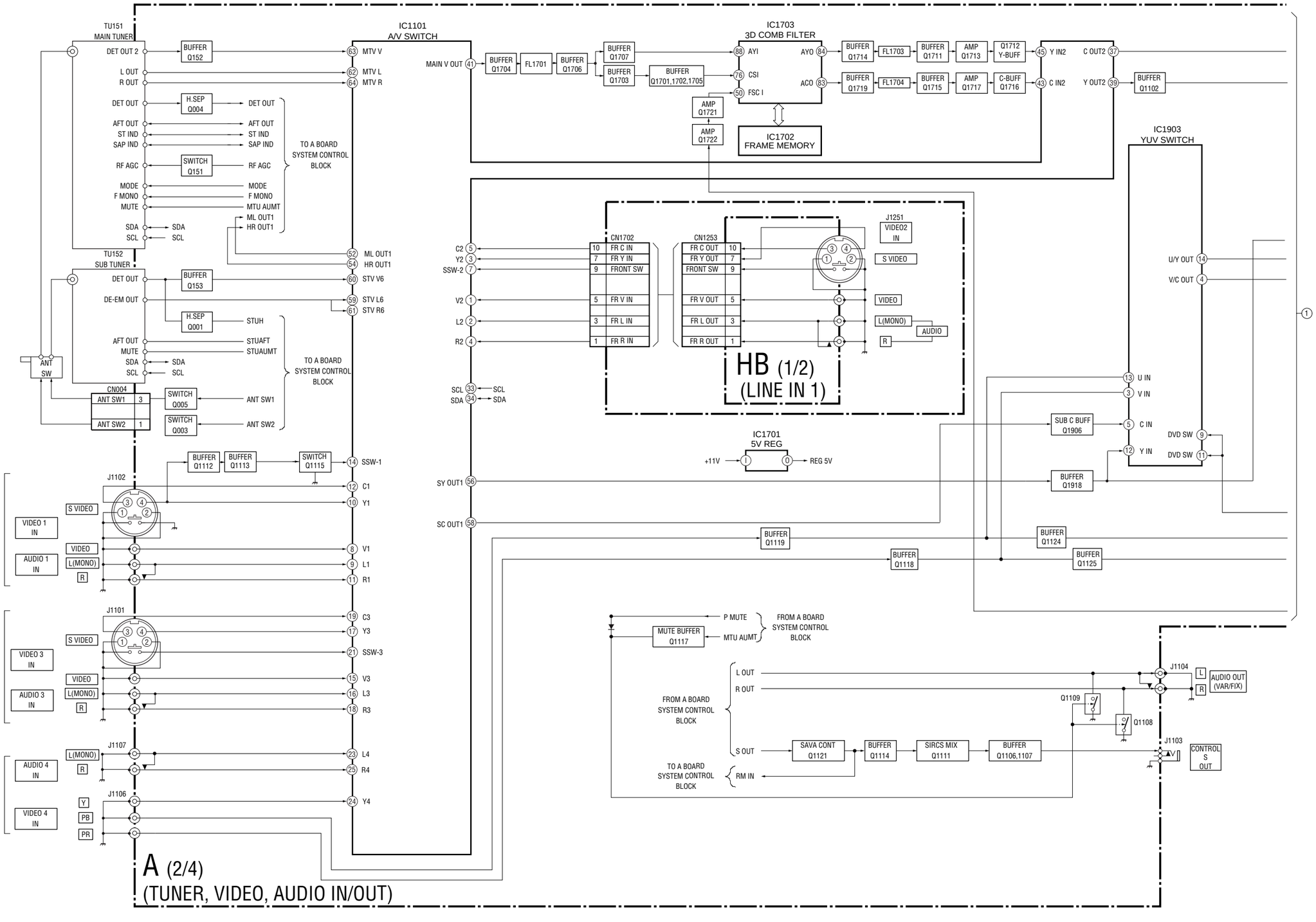
(Chip semiconductors that are not actually used are included.)

Ver.1.6

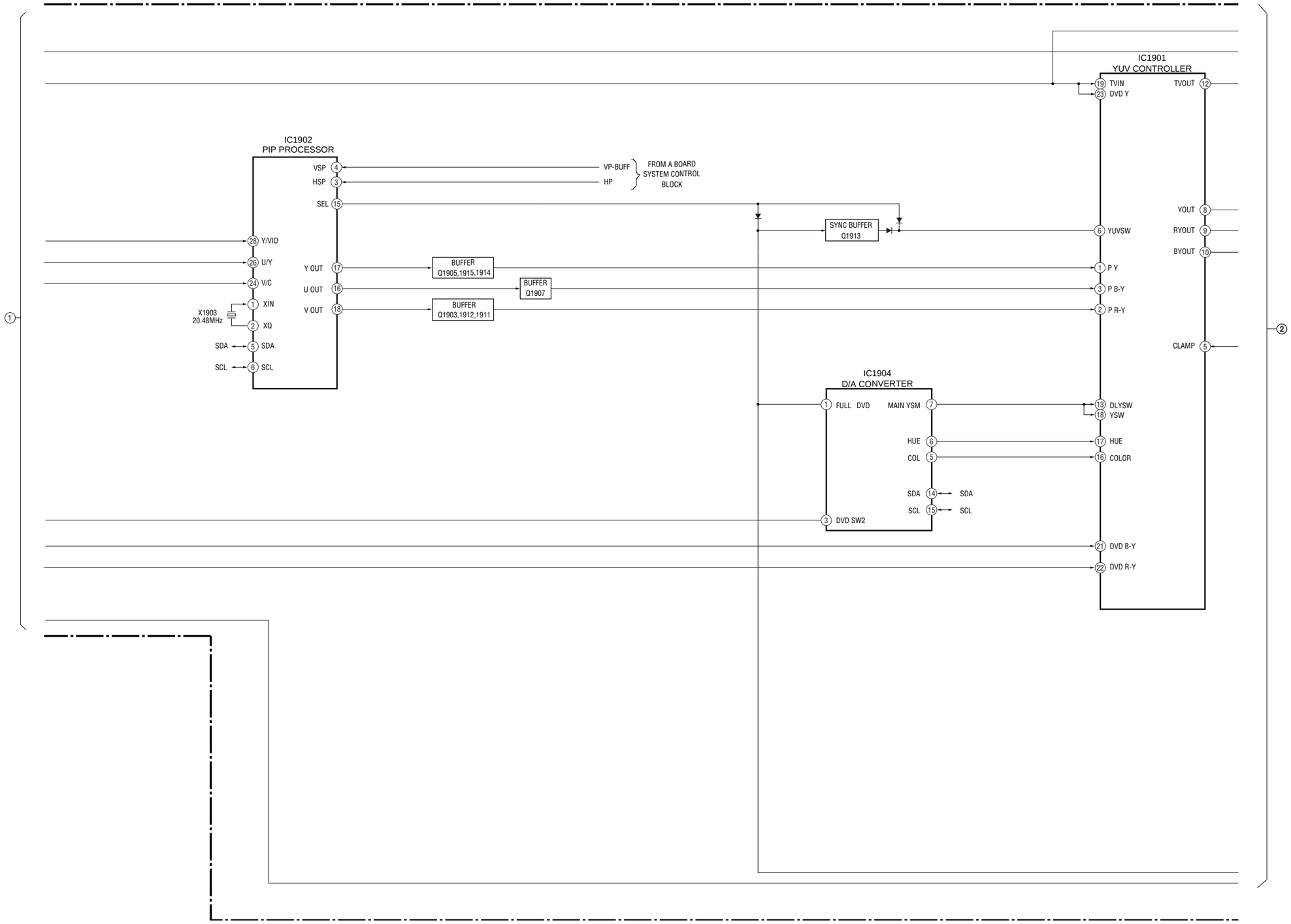
5-3. BLOCK DIAGRAM (1 OF 8)



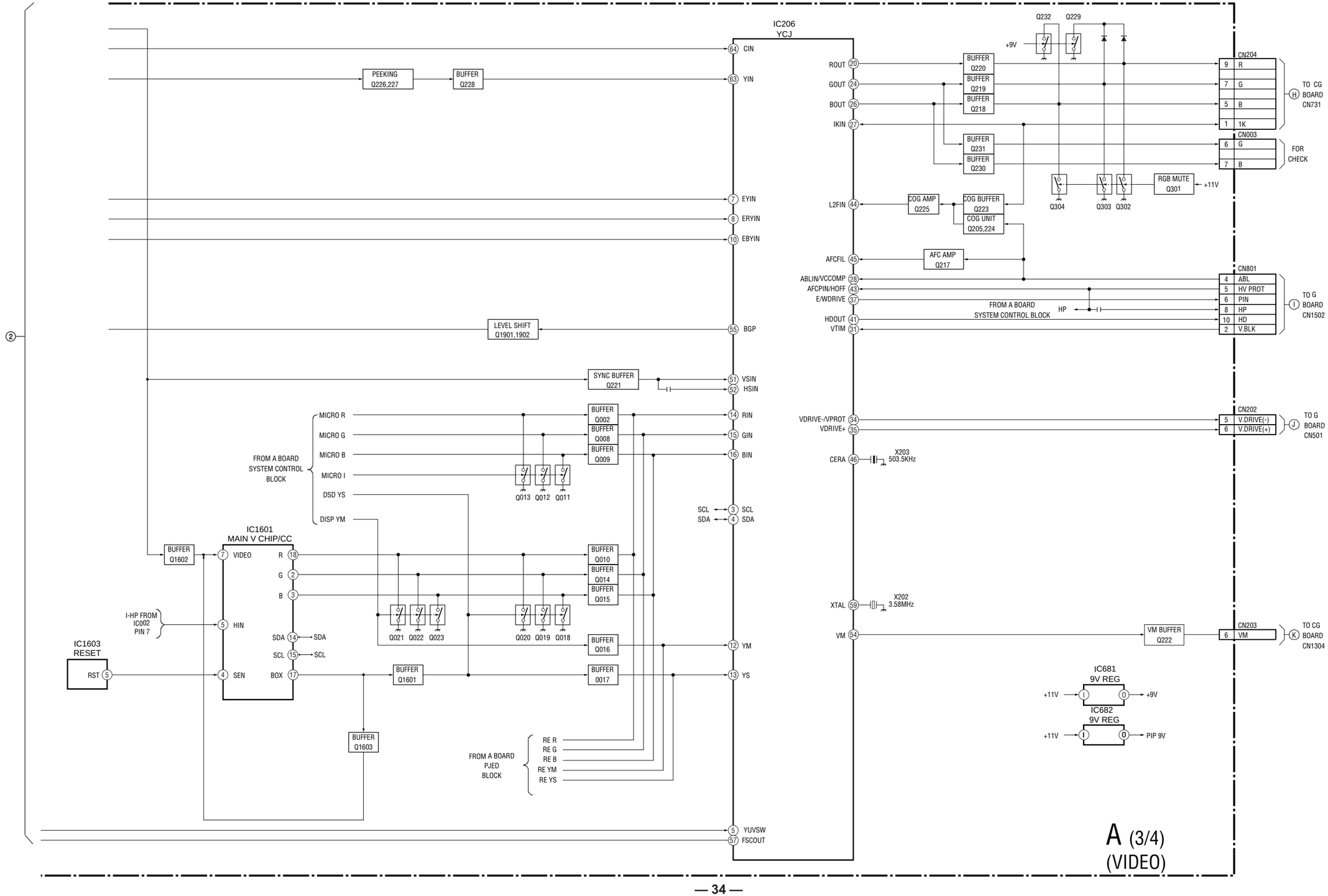
BLOCK DIAGRAM (2 OF 8)



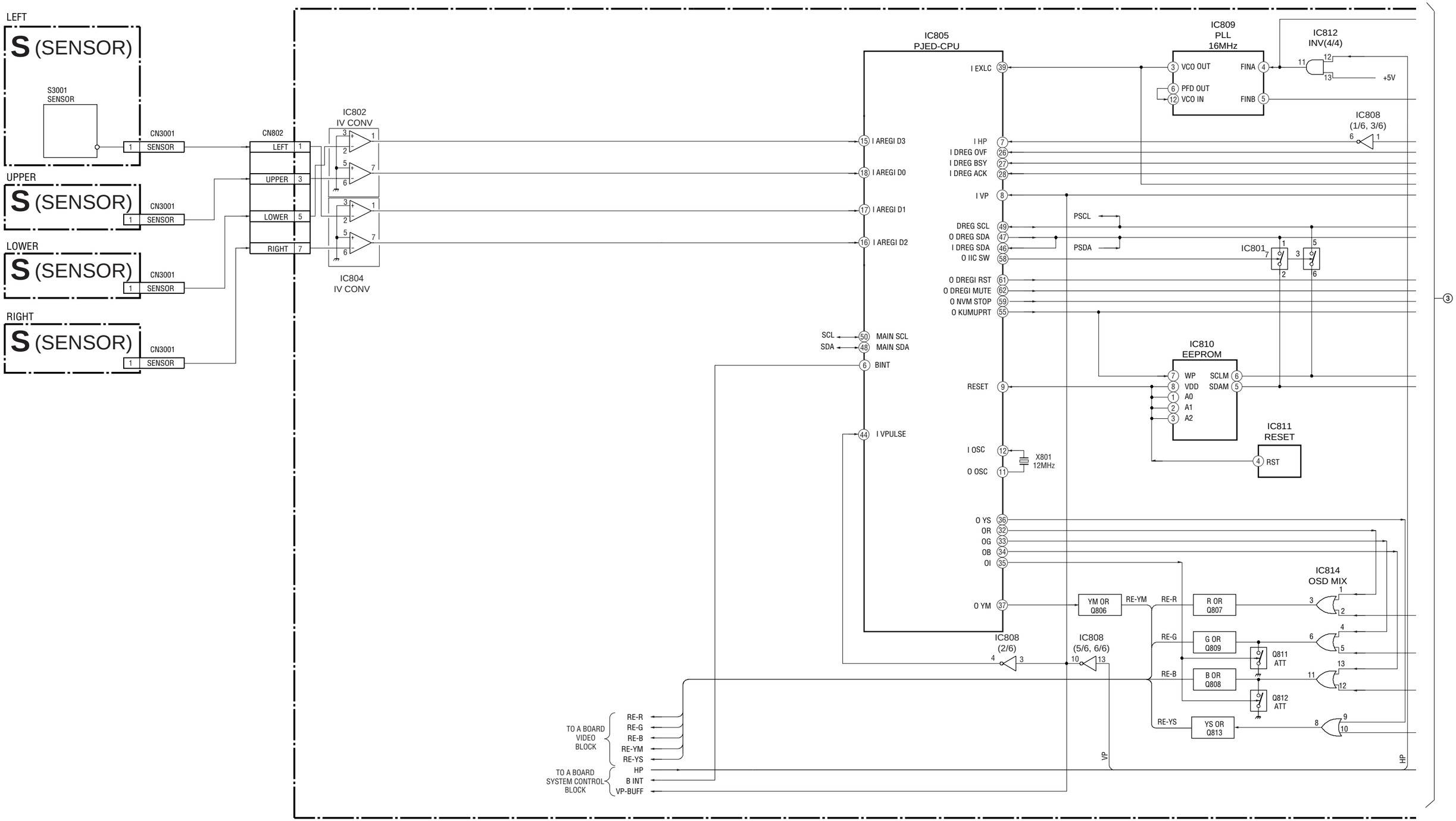
BLOCK DIAGRAM (3 OF 8)



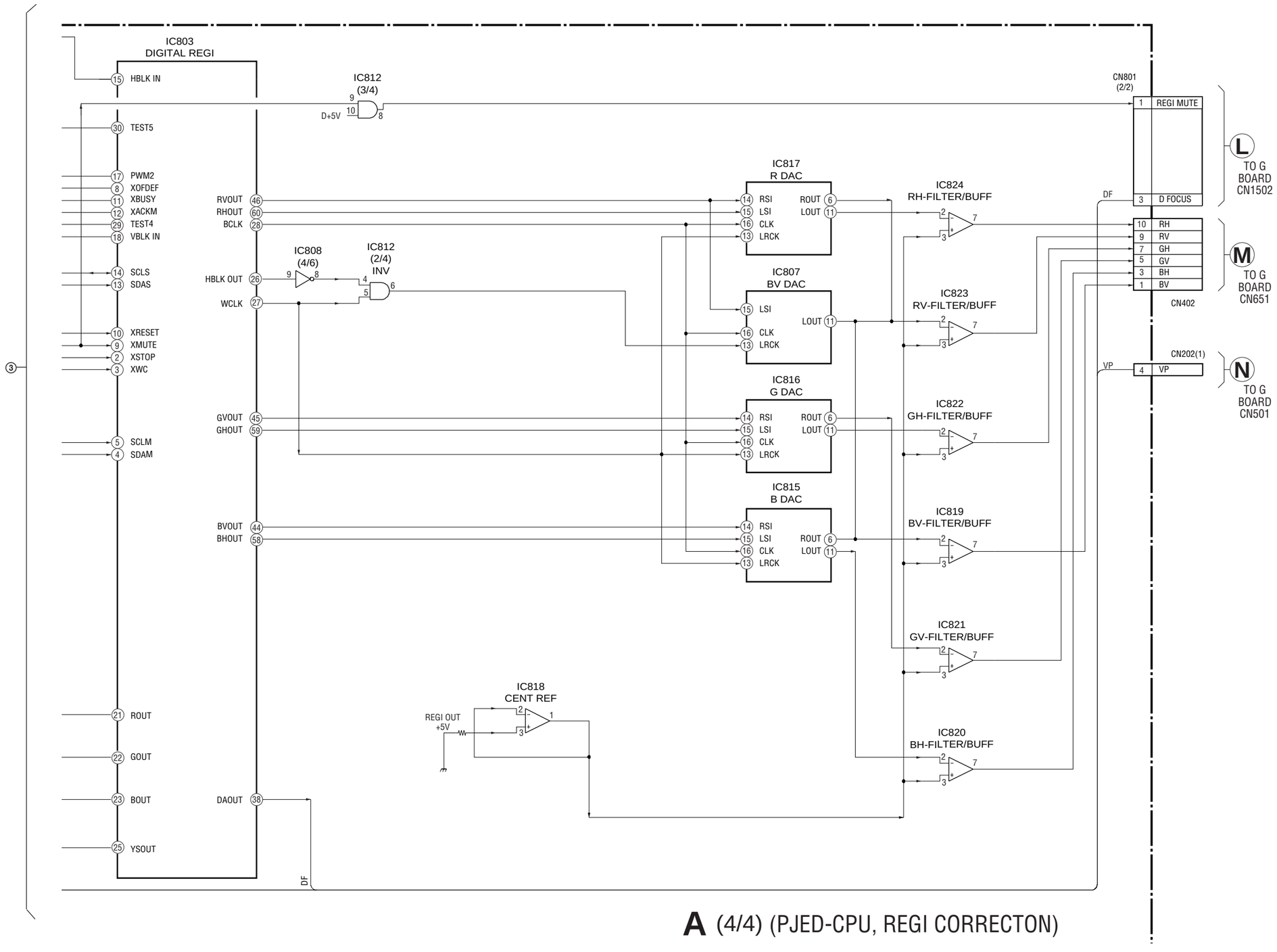
BLOCK DIAGRAM (4 OF 8)



BLOCK DIAGRAM (5 OF 8)

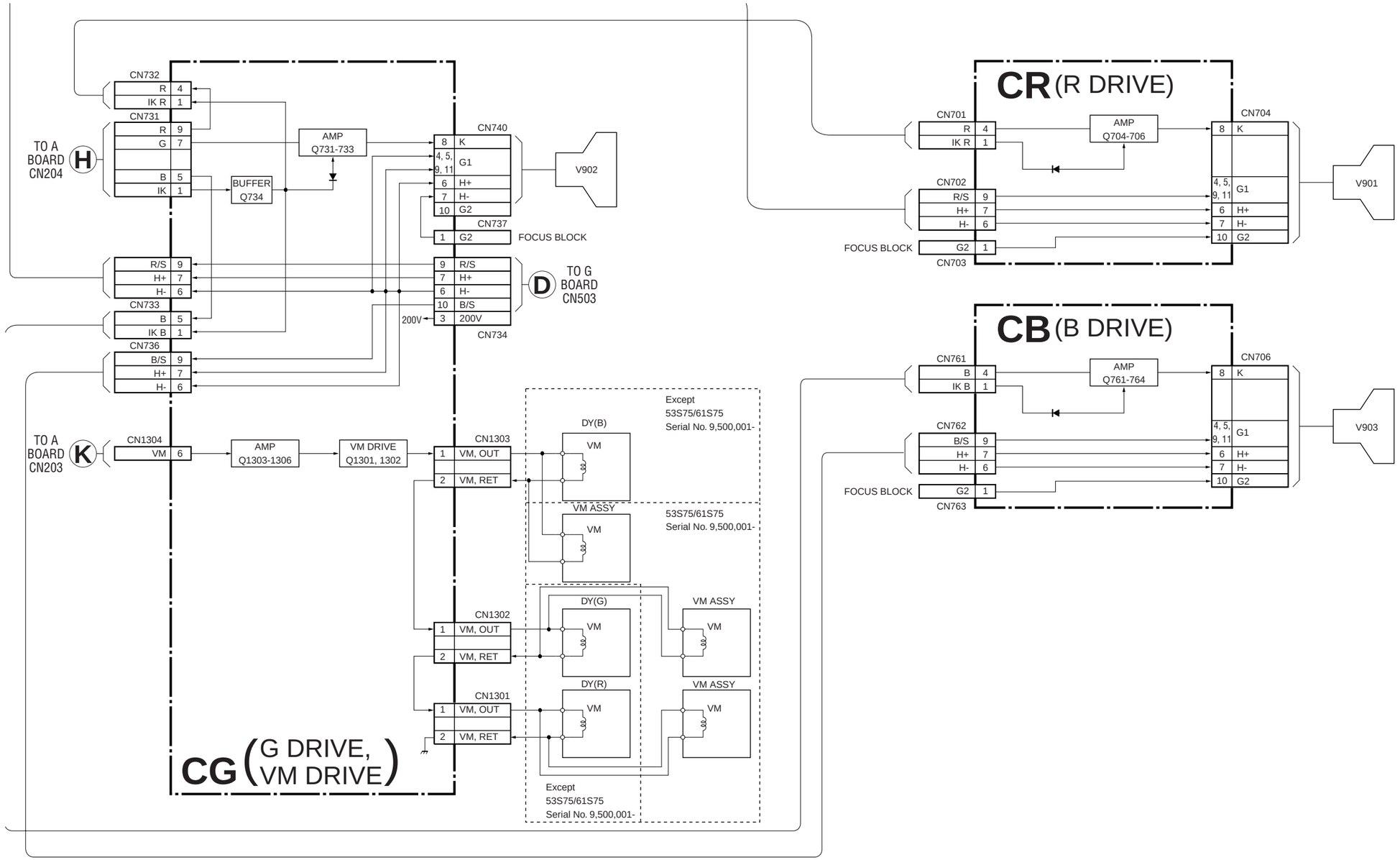


BLOCK DIAGRAM (6 OF 8)

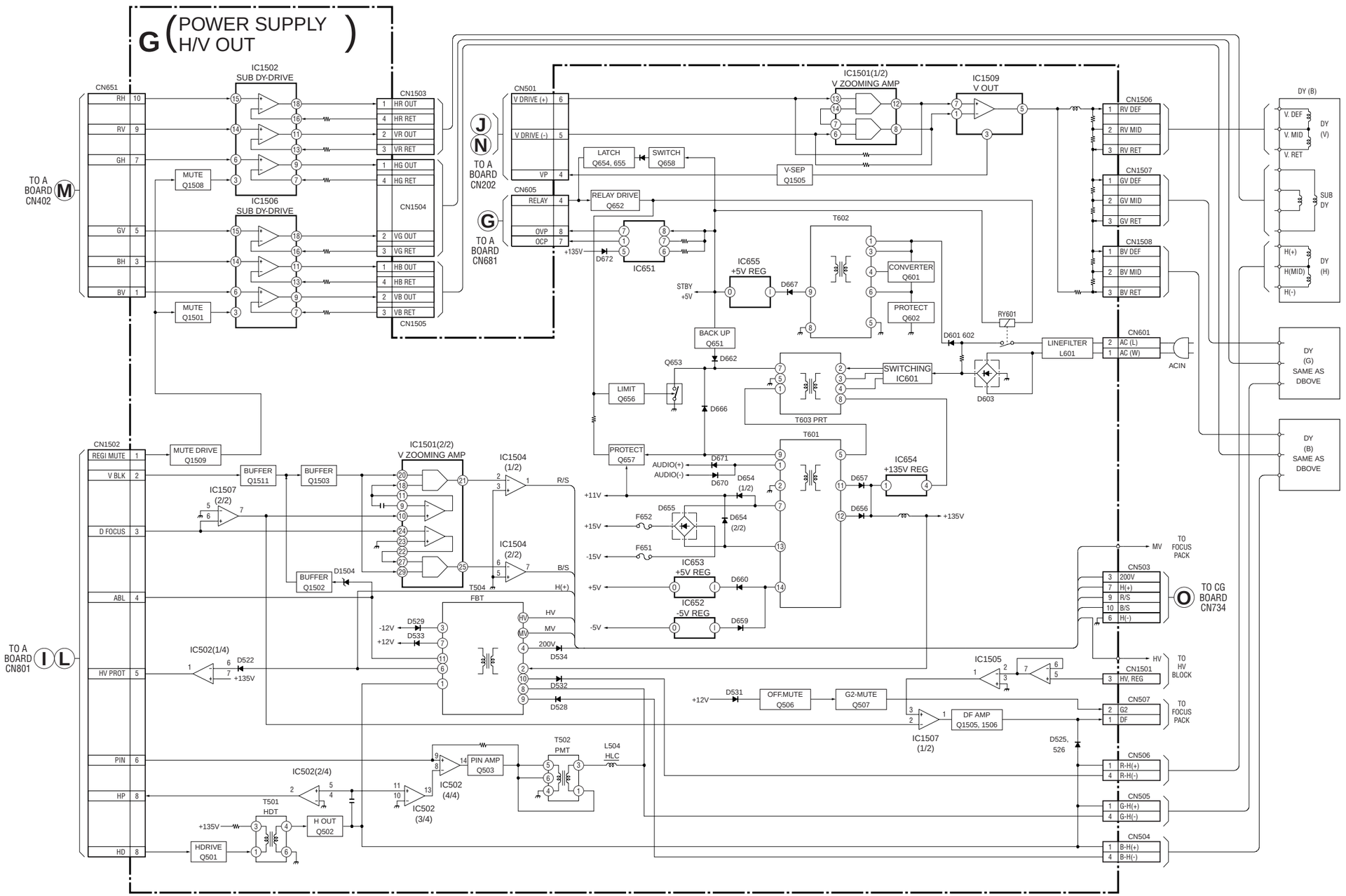


A (4/4) (PJED-CPU, REGI CORRECTON)

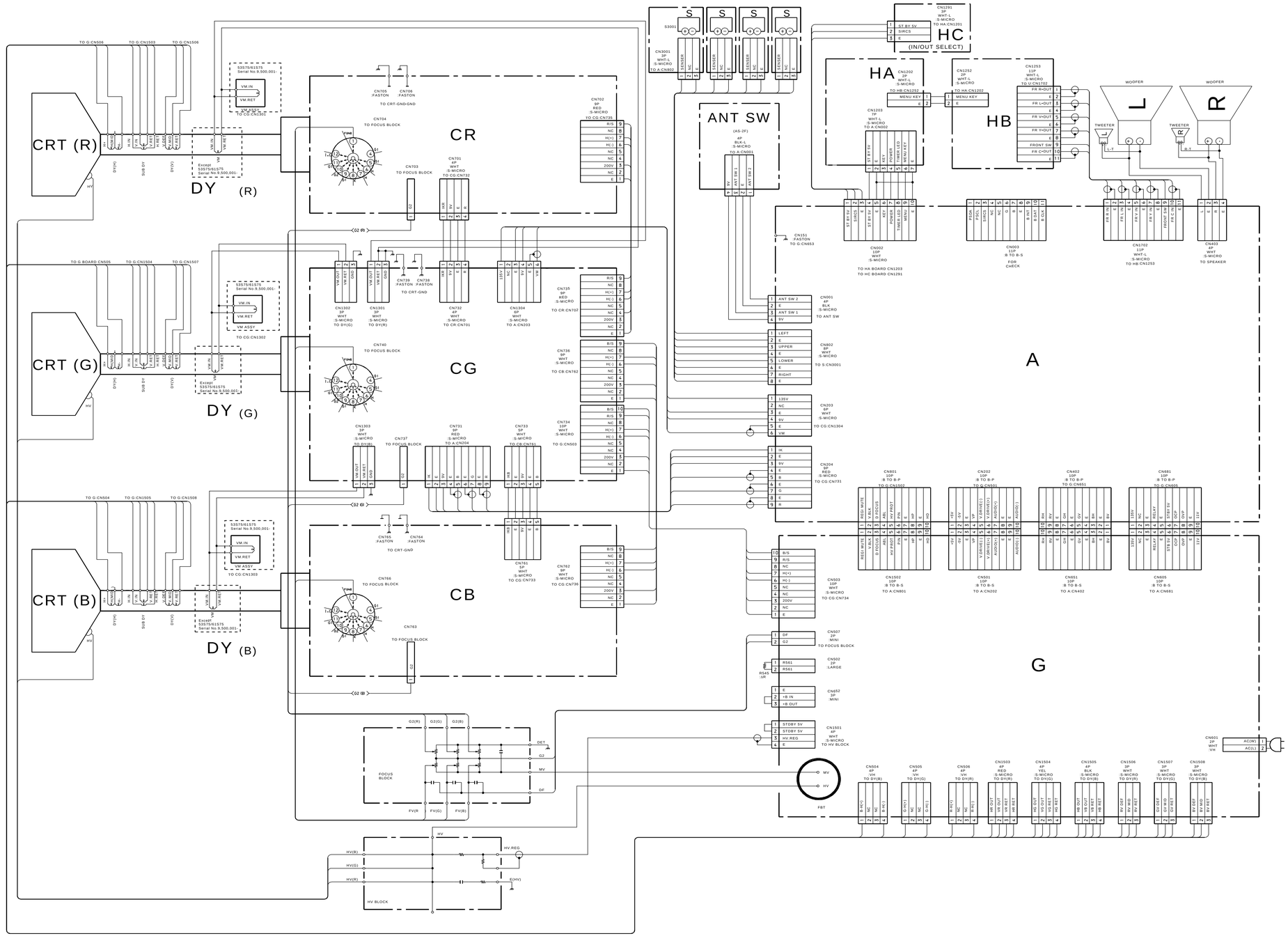
BLOCK DIAGRAM (7 OF 8)



BLOCK DIAGRAM (8 OF 8)



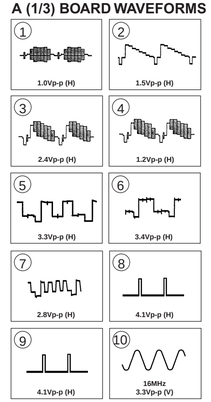
5-4. FRAME SCHEMATIC DIAGRAM



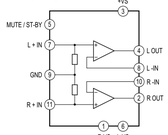
A BOARD SCHEMATIC DIAGRAM (1 OF 3)

CHANGER ANTENNA
⚠ AS-2S

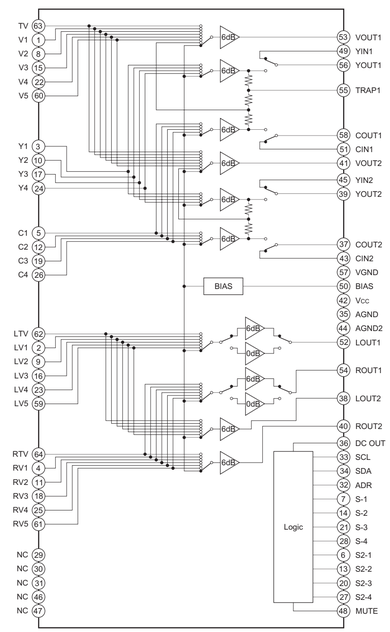
A (1/3) BOARD WAVEFORMS



A (1/3) BOARD : IC406 TDA7265



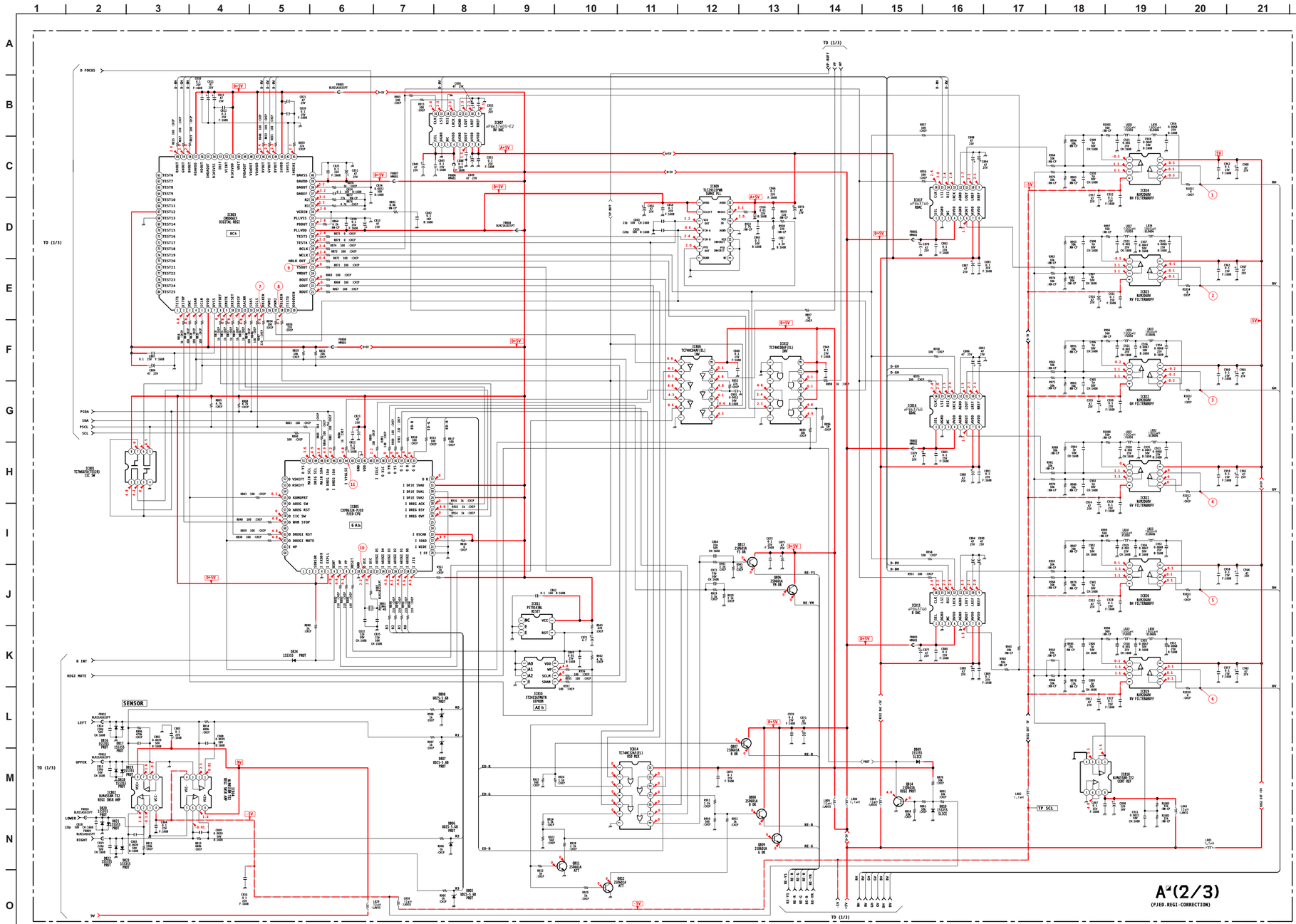
A (1/3) BOARD : IC1011 CXA2079Q



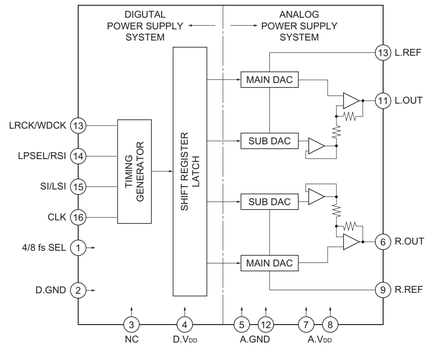
A²(1/3)

(SYSTEM CONTROL.AUDIO.TUNER.YCJ)

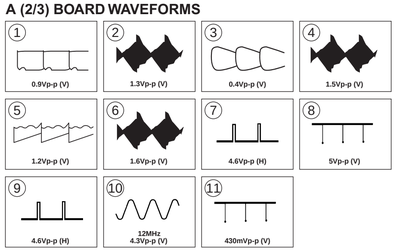
A BOARD SCHEMATIC DIAGRAM (2 OF 3)



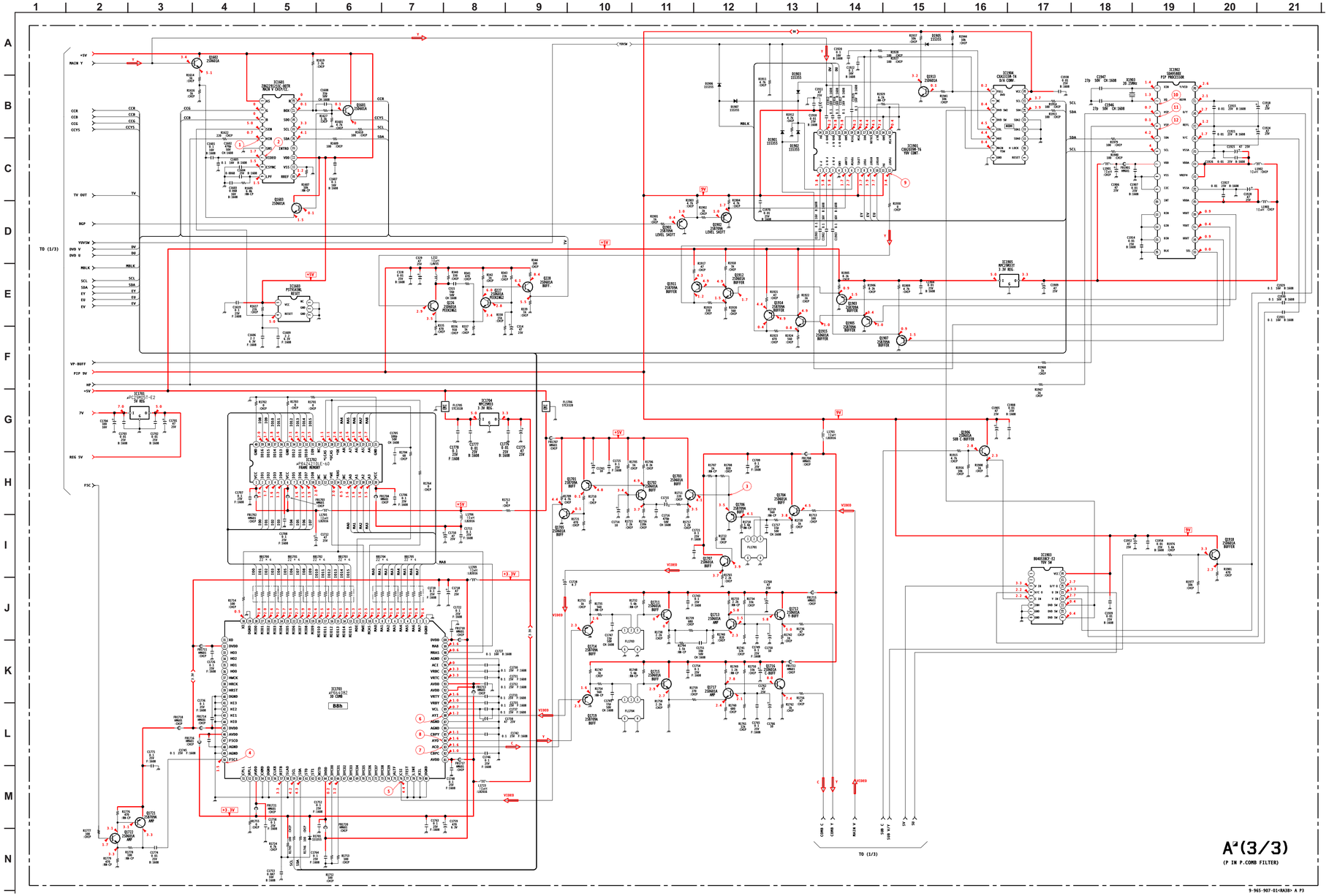
A (2/3) BOARD : IC807, 815, 816, 817
µPD6376GS-E2



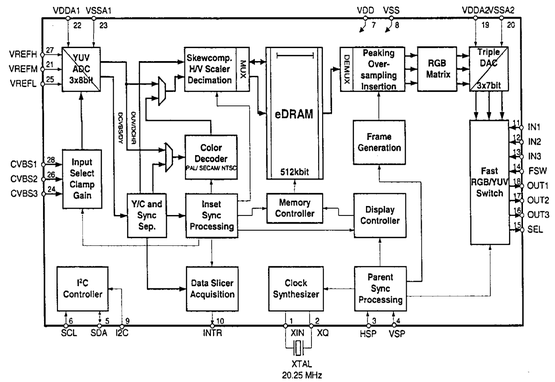
A (2/3) BOARD WAVEFORMS



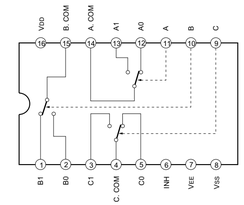
A BOARD SCHEMATIC DIAGRAM (3 OF 3)



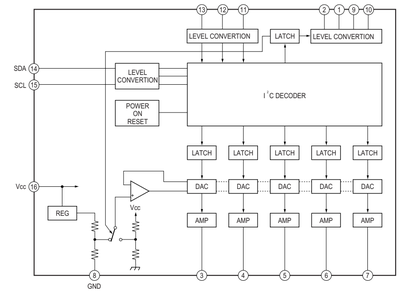
A (3/3) BOARD : IC1902 SDA9588X



A (3/3) BOARD : IC1903 BU4053BCF-T2



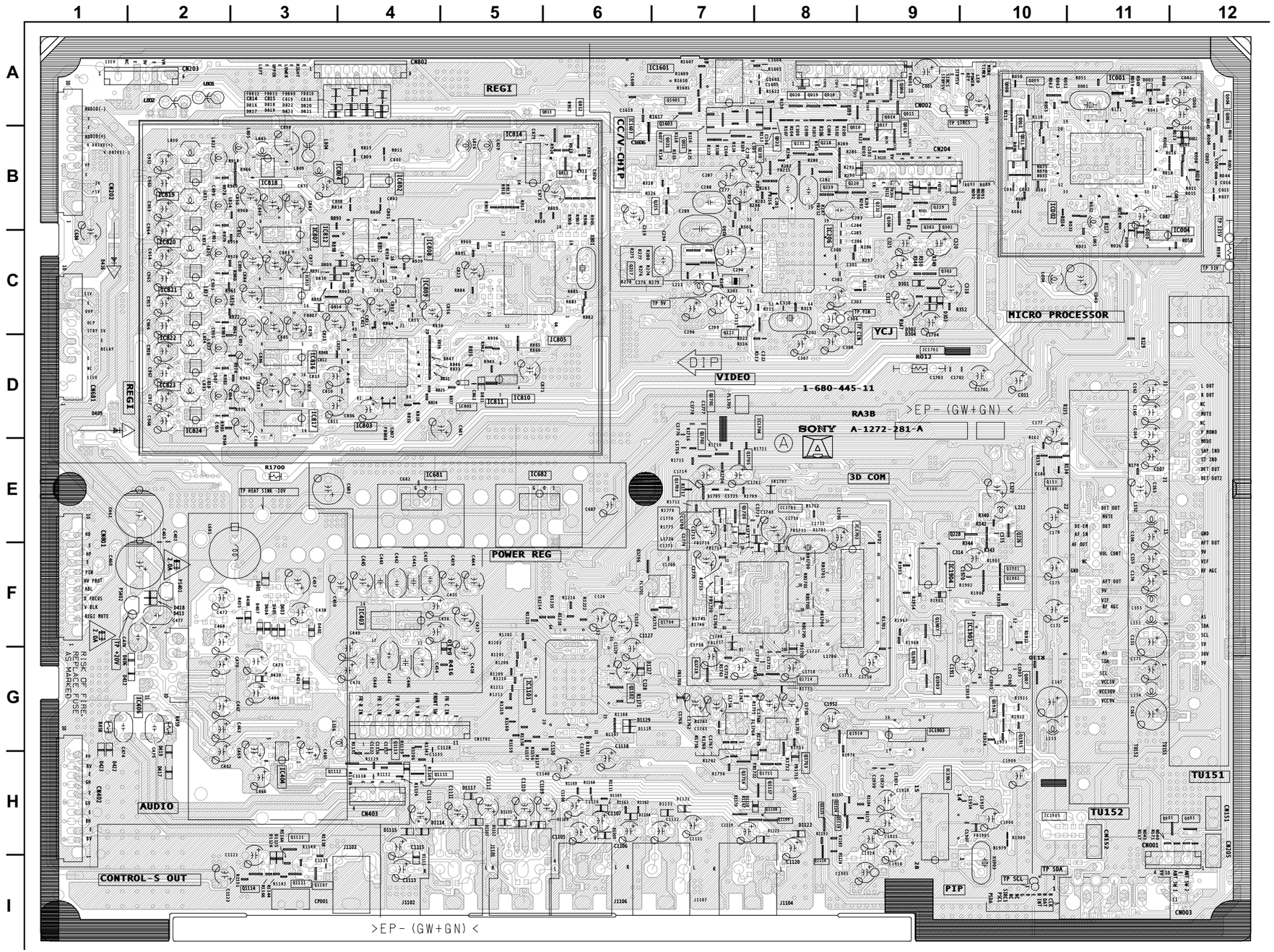
A (3/3) BOARD : IC1904 CXA1315M-T4



A (3/3) BOARD WAVEFORMS

① 4.8Vp-p (H)	② 1Vp-p (H)	③ 1.8Vp-p (H)	④ 0.5Vp-p (0.275usec)	⑤ 1.8Vp-p (H)	⑥ 1.0Vp-p (H)
⑦ 0.7Vp-p (H)	⑧ 0.7Vp-p (H)	⑨ 1.8Vp-p (H)	⑩ 4.2Vp-p (20.48MHz)	⑪ 4.8Vp-p (V)	⑫ 5Vp-p (V)

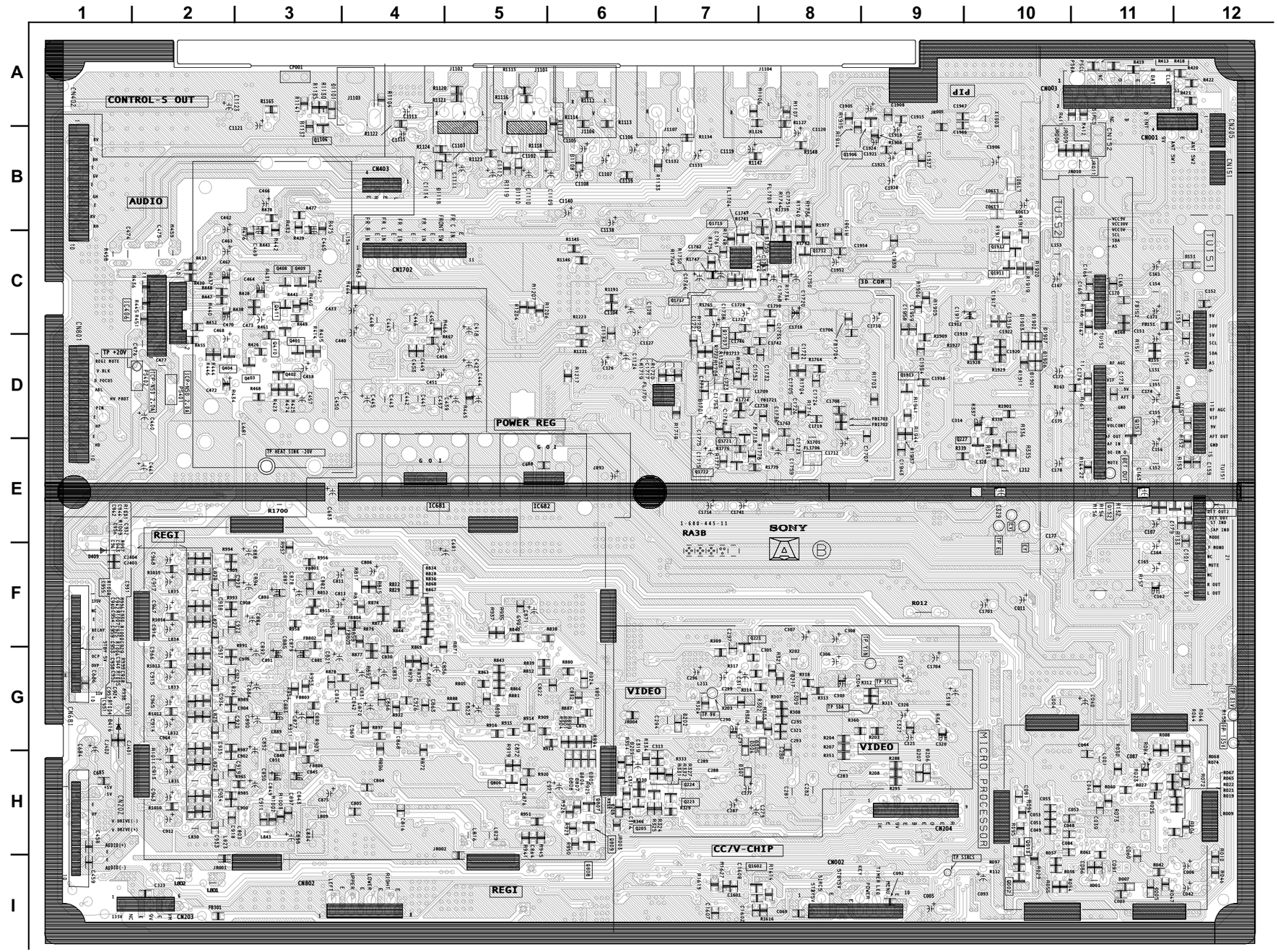
A TUNER, YCJ, SYSTEM CONTROL, AUDIO, PJED, REGI-CORRECTION, P in P, COMB FILTER [COMPONENT SIDE]



A BOARD LOCATOR LIST (COMPONENT SIDE)

DIODE		IC		Q153	E-10
D001	B-12	IC001	A-11	Q217	C-6
D002	B-12	IC002	B-10	Q218	B-8
D003	A-11	IC004	B-12	Q219	B-8
D004	A-8	IC206	C-8	Q220	B-8
D006	A-9	IC403	F-4	Q222	C-7
D301	C-9	IC404	H-3	Q225	B-7
D302	C-9	IC406	G-2	Q226	E-10
D303	C-9	IC681	E-4	Q228	E-9
D304	C-9	IC682	E-5	Q229	B-9
D402	F-3	IC801	D-5	Q230	B-8
D403	F-3	IC802	B-4	Q231	B-8
D404	F-3	IC803	D-4	Q232	B-9
D405	F-3	IC804	B-4	Q301	C-9
D406	G-2	IC805	D-6	Q302	C-9
D407	F-3	IC807	C-3	Q303	C-9
D408	F-3	IC808	C-4	Q304	C-9
D409	D-1	IC809	C-4	Q811	B-6
D410	G-5	IC810	D-5	Q812	A-6
D412	G-2	IC811	D-5	Q813	A-6
D413	F-2	IC812	C-3	Q814	C-3
D416	C-1	IC814	B-5	Q1102	G-6
D417	H-2	IC815	C-3	Q1107	I-3
D418	F-2	IC816	D-3	Q1108	H-8
D419	G-2	IC817	D-3	Q1109	H-8
D420	G-3	IC818	B-3	Q1111	I-3
D421	G-3	IC819	B-2	Q1112	H-3
D422	H-1	IC820	C-2	Q1113	H-4
D423	H-1	IC821	C-2	Q1114	I-2
D805	H-6	IC822	D-2	Q1115	H-4
D806	H-6	IC823	D-2	Q1117	H-8
D807	H-6	IC824	D-2	Q1118	I-8
D808	H-6	IC1101	G-6	Q1119	H-8
D809	C-3	IC1601	A-7	Q1121	H-3
D810	C-3	IC1603	B-6	Q1124	H-8
D816	A-3	IC1701	D-9	Q1125	H-8
D817	A-3	IC1702	E-8	Q1601	A-7
D818	A-3	IC1703	E-8	Q1602	I-7
D819	A-3	IC1704	E-8	Q1603	B-7
D820	A-3	IC1901	F-9	Q1701	D-7
D821	A-3	IC1902	H-9	Q1702	D-7
D822	A-3	IC1903	G-9	Q1703	E-7
D823	A-3	IC1904	F-9	Q1704	E-7
D1103	H-6	IC1905	H-10	Q1705	E-7
D1104	H-6	TRANSISTOR		Q1706	F-6
D1105	H-6	Q001	A-12	Q1711	H-8
D1106	H-4	Q004	A-12	Q1713	H-8
D1107	H-5	Q006	A-9	Q1716	H-7
D1109	H-6	Q007	G-10	Q1719	G-7
D1111	H-5	Q008	A-10	Q1901	F-10
D1112	H-5	Q009	A-10	Q1902	F-10
D1113	H-4	Q010	B-8	Q1903	G-9
D1114	H-4	Q011	B-10	Q1905	G-9
D1115	H-4	Q012	A-10	Q1907	F-9
D1120	H-7	Q014	B-9	Q1914	G-10
D1121	H-7	Q015	B-9	Q1915	G-10
D1117	H-5	Q016	B-9	Q1918	G-9
D1122	H-7	Q017	B-9		
D1124	H-3	Q018	A-8		
D1125	H-3	Q019	A-8		
D1127	G-6	Q020	A-8		
D1131	H-7	Q021	B-7		
D1132	H-7	Q022	B-7		
D1905	F-9	Q023	B-8		

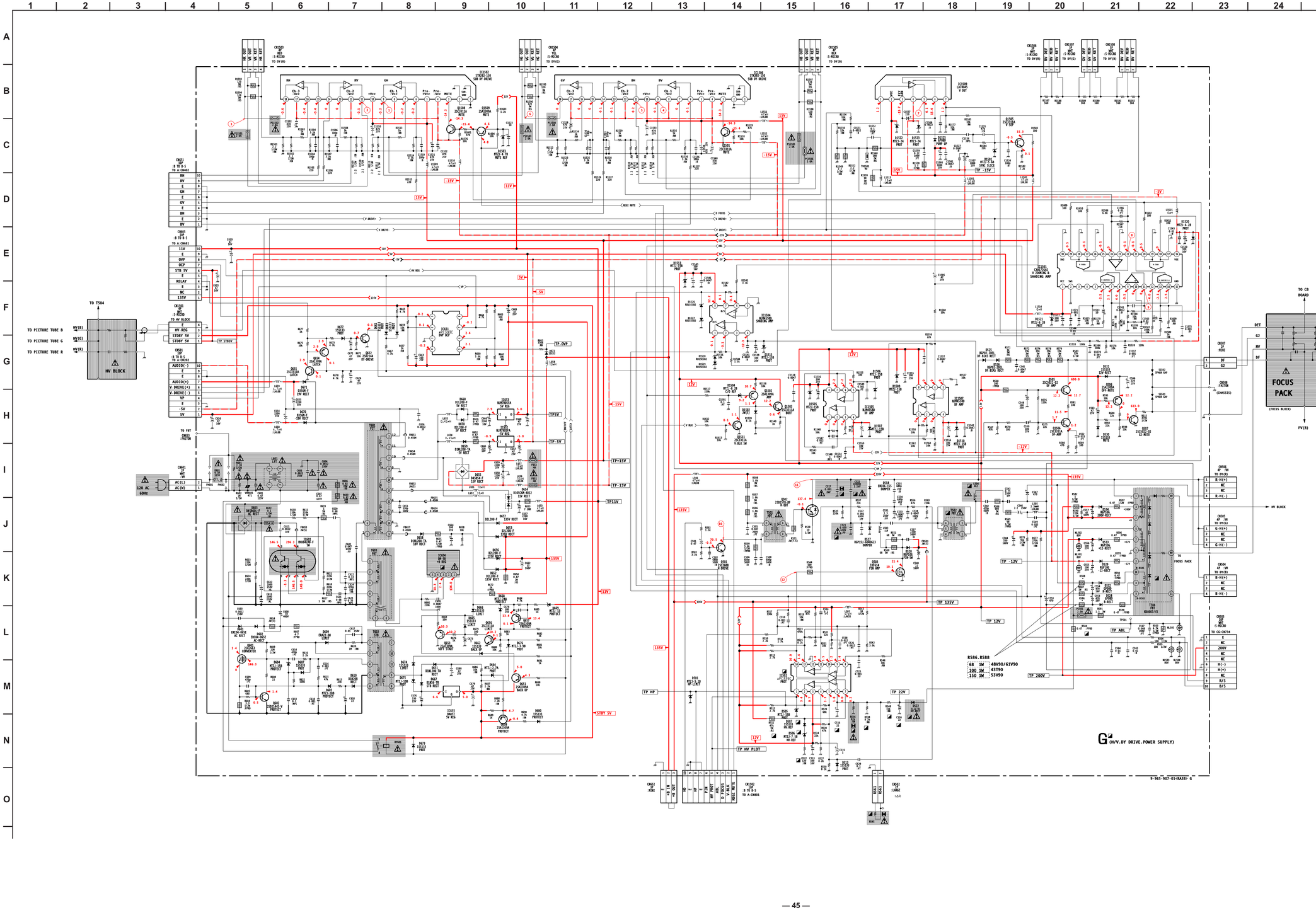
A TUNER, YCJ, SYSTEM CONTROL, AUDIO, PJED, REGI-CORRECTION, P in P, COMB FILTER [CONDUCTOR SIDE]



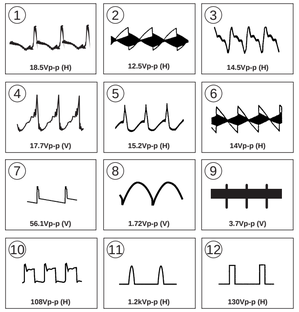
A BOARD LOCATOR LIST (CONDUCTOR SIDE)

DIODE		TRANSISTOR	
D005	I-11	Q002	I-10
D007	I-11	Q003	H-12
D151	C-12	Q005	H-11
D202	G-7	Q013	H-10
D206	G-9	Q151	E-11
D207	G-9	Q152	E-11
D208	H-6	Q205	H-6
D209	H-6	Q221	F-7
D305	G-7	Q223	H-7
D306	G-7	Q224	H-7
D307	G-7	Q227	D-9
D824	G-6	Q401	D-3
D1101	A-4	Q402	D-3
D1108	B-6	Q403	D-2
D1110	B-5	Q404	D-2
D1118	B-4	Q408	C-3
D1701	D-7	Q409	C-3
D1901	D-10	Q410	D-3
D1902	D-10	Q411	C-3
D1903	D-10	Q806	H-5
D1906	D-10	Q807	H-6
D1907	D-10	Q808	H-6
		Q809	H-6
		Q1106	B-3
		Q1707	D-7
		Q1712	C-8
		Q1714	C-7
		Q1715	C-7
		Q1717	C-7
		Q1721	E-7
		Q1722	E-7
		Q1906	B-8
		Q1911	C-10
		Q1912	C-10
		Q1913	D-9

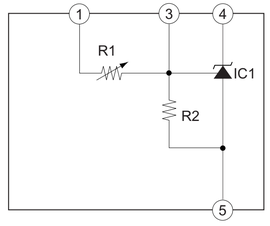
G BOARD SCHEMATIC DIAGRAM


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
A B C D E F G H I J K L M N O
HV BLOCK
TO PICTURE TUBE B
TO PICTURE TUBE G
TO PICTURE TUBE R
FOCUS PACK
(FOCUS BLOCK)
TO CB BOARD
TO CG BOARD
TO CR BOARD
120 AC
G(H/V.DY DRIVE.POWER SUPPLY)
9-965-907-01<RA3B> G

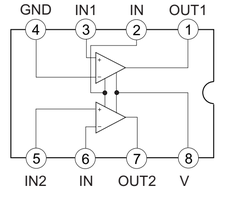
G BOARD WAVEFORMS



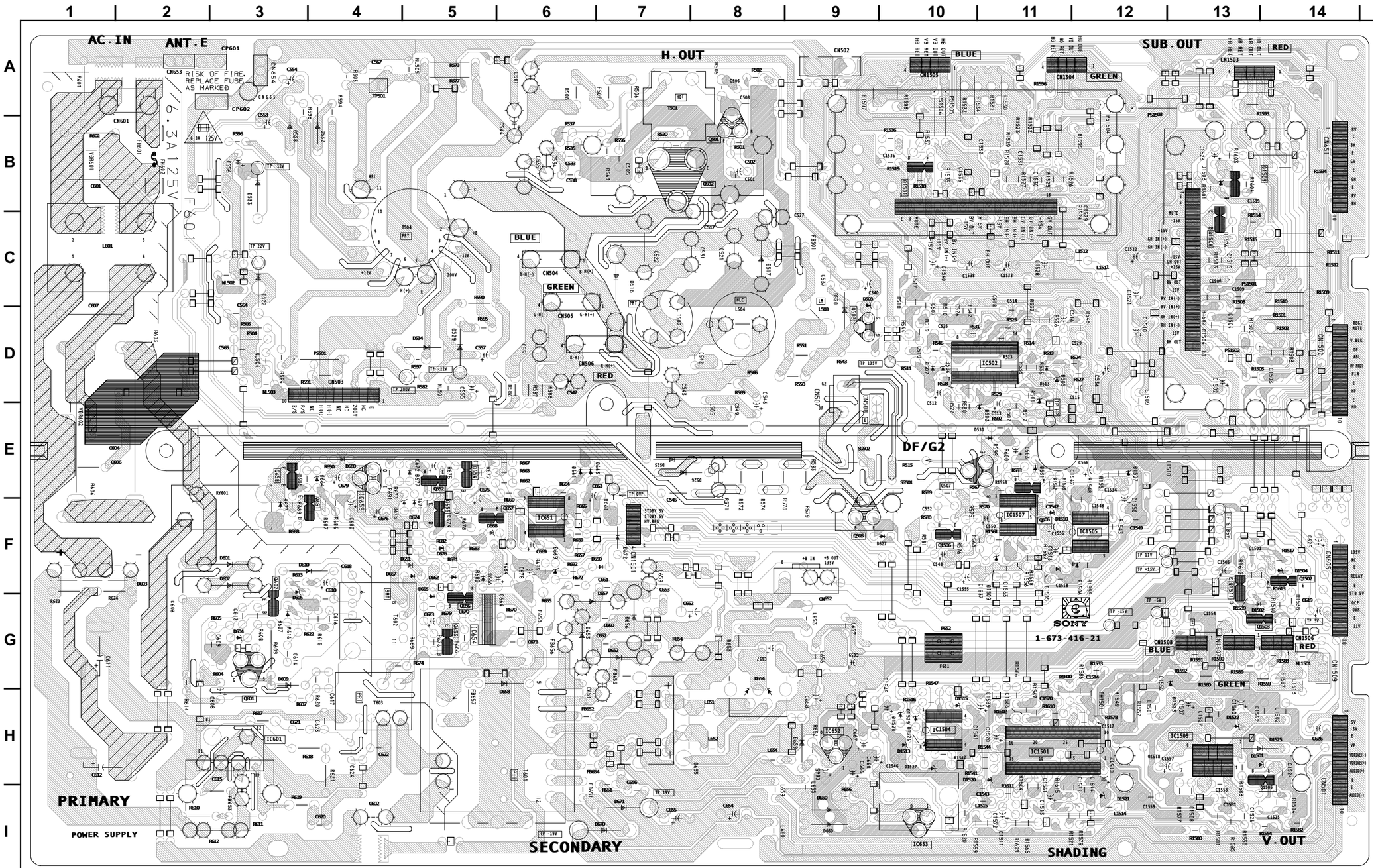
G BOARD : IC654 DM-58



G BOARD : IC651 µPC393C

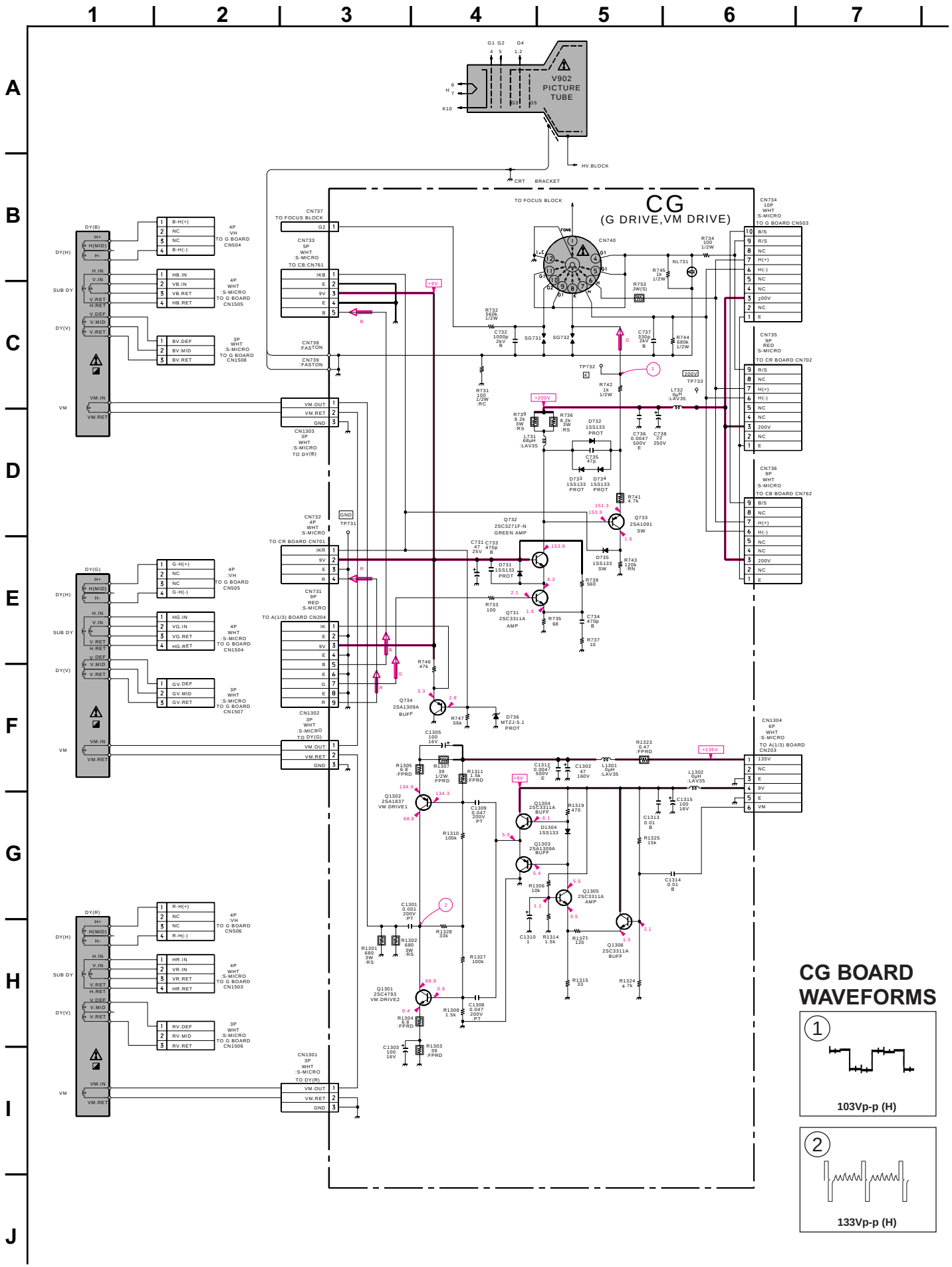


G [H/V, DY DRIVE, POWER SUPPLY]



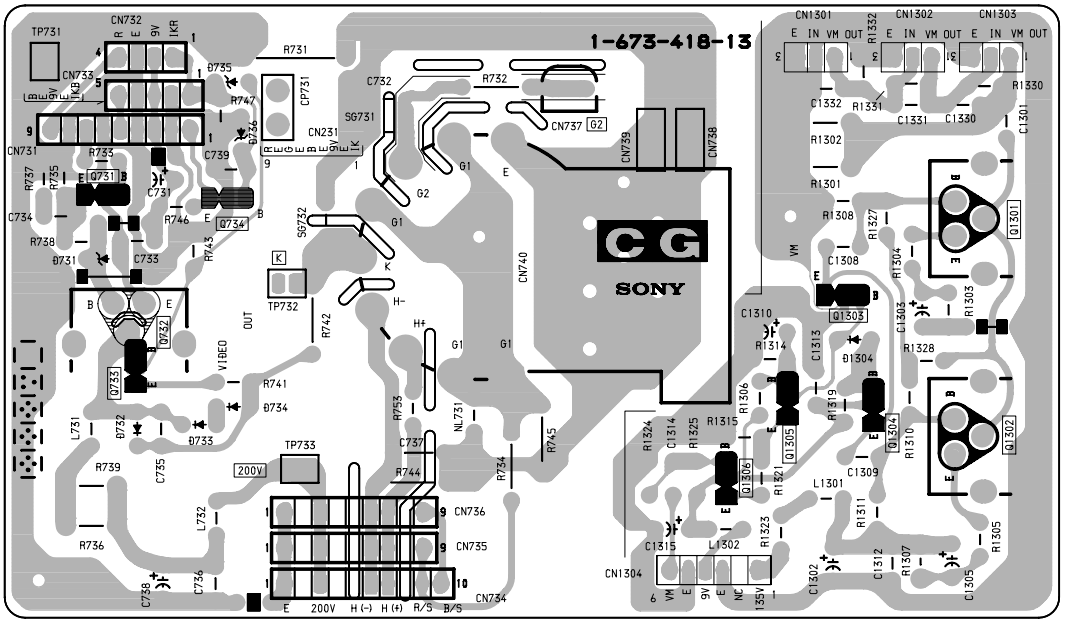
G BOARD LOCATION LIST

DIODE		D1504	F-14
D501	D-11	D1505	F-11
D505	D-11	D1506	F-12
D506	D-10	D1507	E-12
D507	D-10	D1509	F-11
D513	D-11	D1510	F-11
D517	C-8	D1513	H-10
D518	C-7	D1515	H-10
D520	C-9	D1520	H-11
D522	C-3	D1521	I-12
D525	E-7	D1522	H-13
D526	E-7	D1523	G-12
D528	B-3	D1525	H-13
D529	D-5	D1526	H-10
D530	E-11	D1527	H-10
D531	E-11	D1528	H-10
D532	B-4	D1529	H-10
D533	B-3	IC	
D534	D-5	IC502	D-11
D601	F-3	IC601	H-3
D602	F-3	IC651	F-6
D603	F-2	IC652	H-9
D604	G-3	IC653	I-10
D605	F-3	IC654	G-5
D607	G-3	IC655	E-4
D609	G-3	IC1501	H-11
D610	F-4	IC1502	D-13
D650	I-9	IC1504	H-10
D651	F-5	IC1505	F-12
D652	F-5	IC1506	B-10
D653	G-6	IC1507	E-11
D654	G-8	IC1509	H-13
D655	H-7	TRANSISTOR	
D656	G-7	Q501	B-8
D657	G-6	Q502	B-7
D658	G-6	Q503	D-9
D659	H-9	Q505	F-9
D660	I-9	Q506	E-11
D661	E-6	Q507	E-11
D662	F-5	Q601	G-3
D663	E-6	Q602	G-3
D664	E-4	Q651	F-4
D665	F-5	Q652	E-5
D666	F-5	Q653	G-5
D667	F-5	Q654	E-5
D668	F-5	Q655	F-5
D669	F-6	Q656	G-5
D670	I-7	Q657	F-6
D671	I-7	Q658	E-3
D672	F-7	Q1501	B-10
D673	F-3	Q1502	F-14
D674	F-5	Q1503	G-13
D675	F-4	Q1505	H-14
D676	F-5	Q1506	E-11
D677	E-5	Q1508	C-13
D680	E-4	Q1509	B-13
D1501	H-13	Q1511	F-13
D1503	B-13		

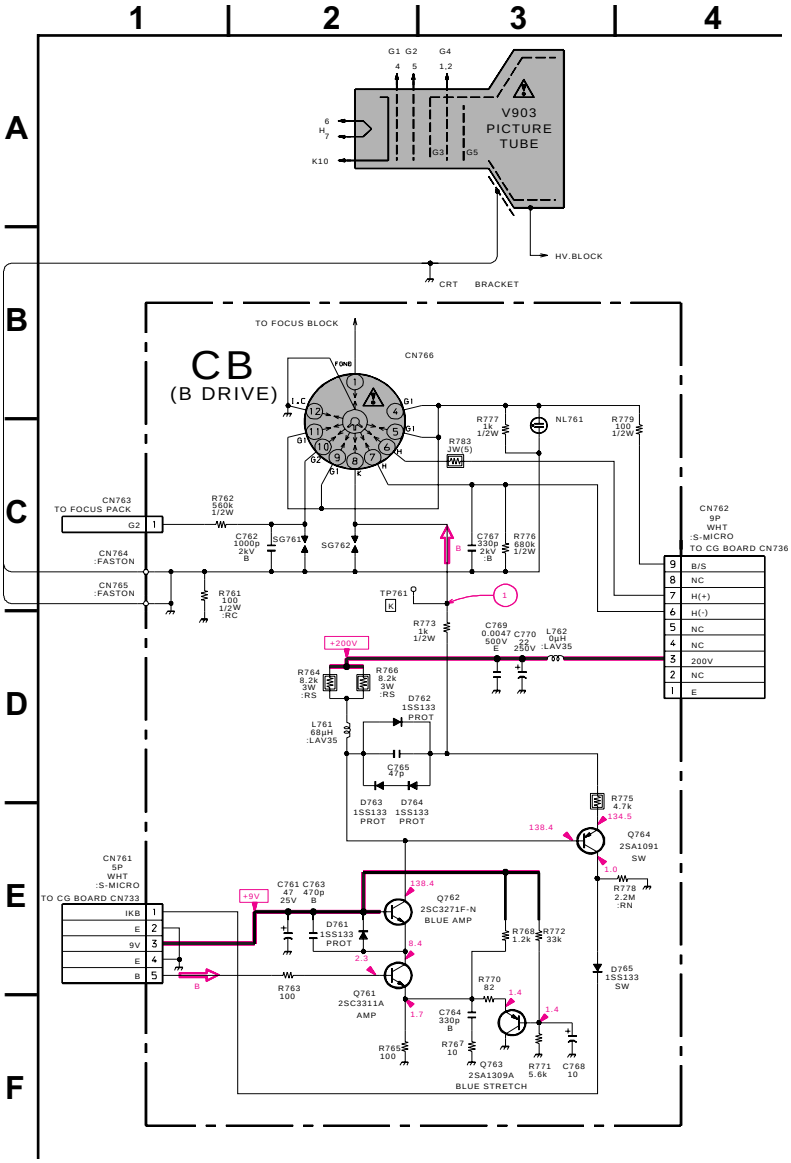


CG BOARD WAVEFORMS

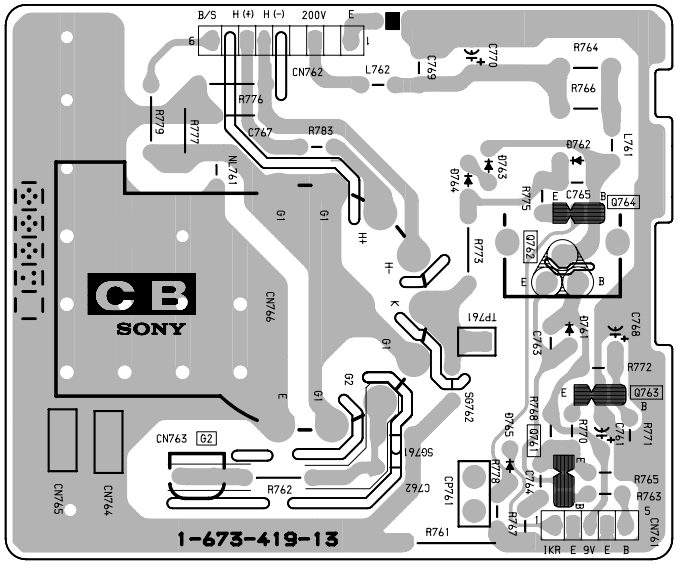
CG [G DRIVE, VM DRIVE]



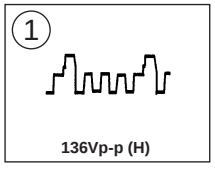
CB BOARD SCHEMATIC DIAGRAM



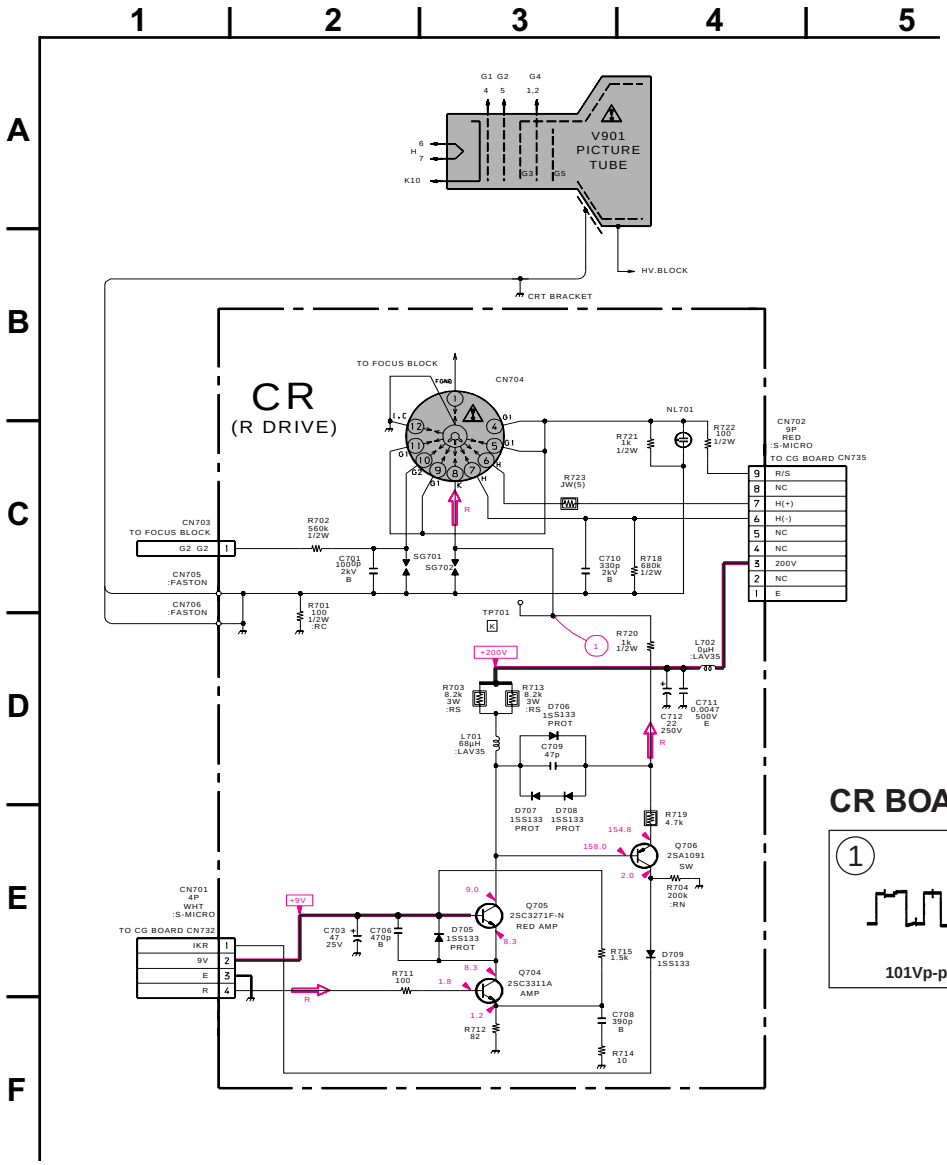
CB [B DRIVE]



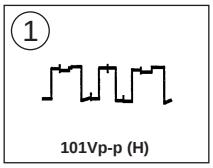
CB BOARD WAVEFORM



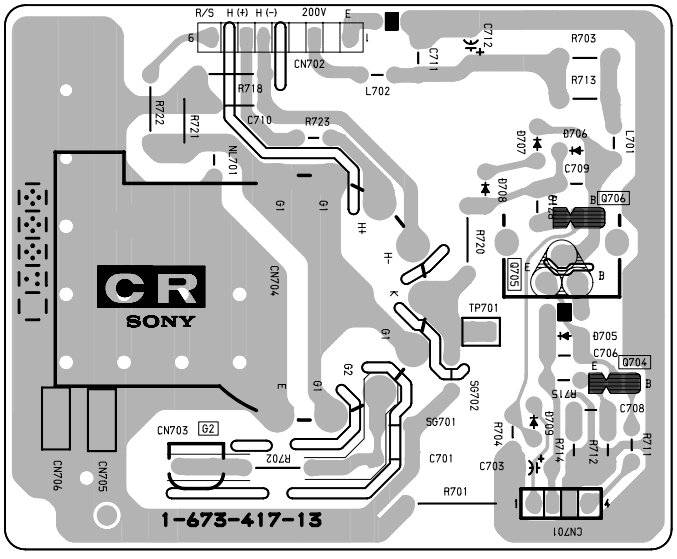
CR BOARD SCHEMATIC DIAGRAM



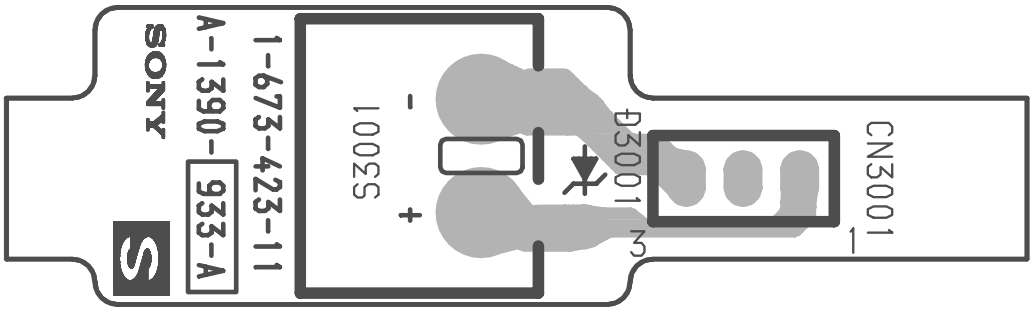
CR BOARD WAVEFORM



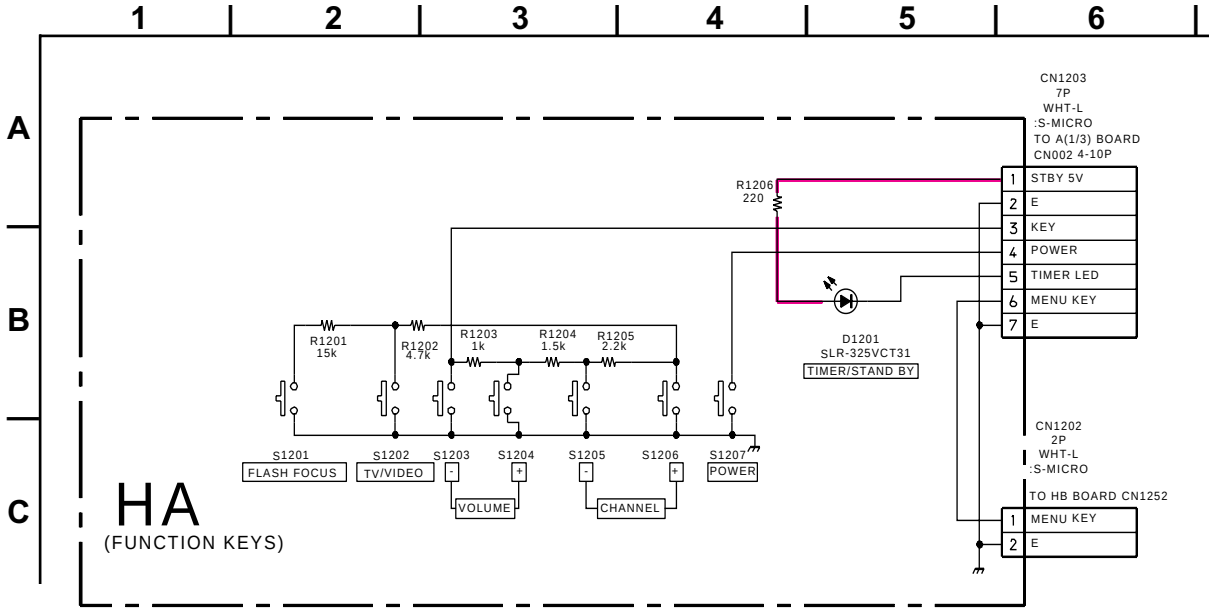
CR [R DRIVE]



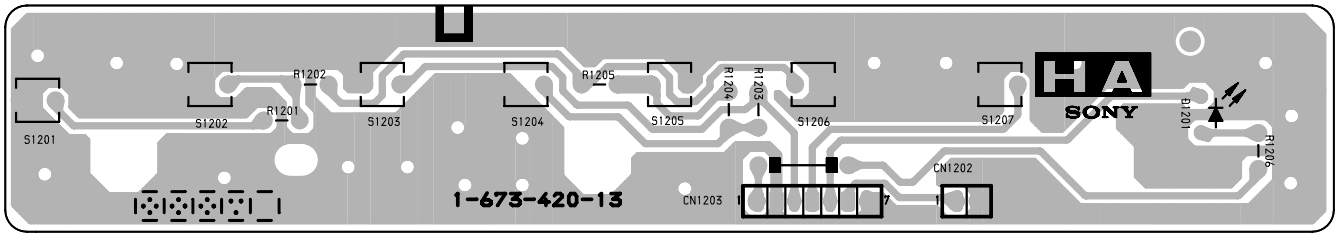
S [P in P, 3D COMB FILTER]



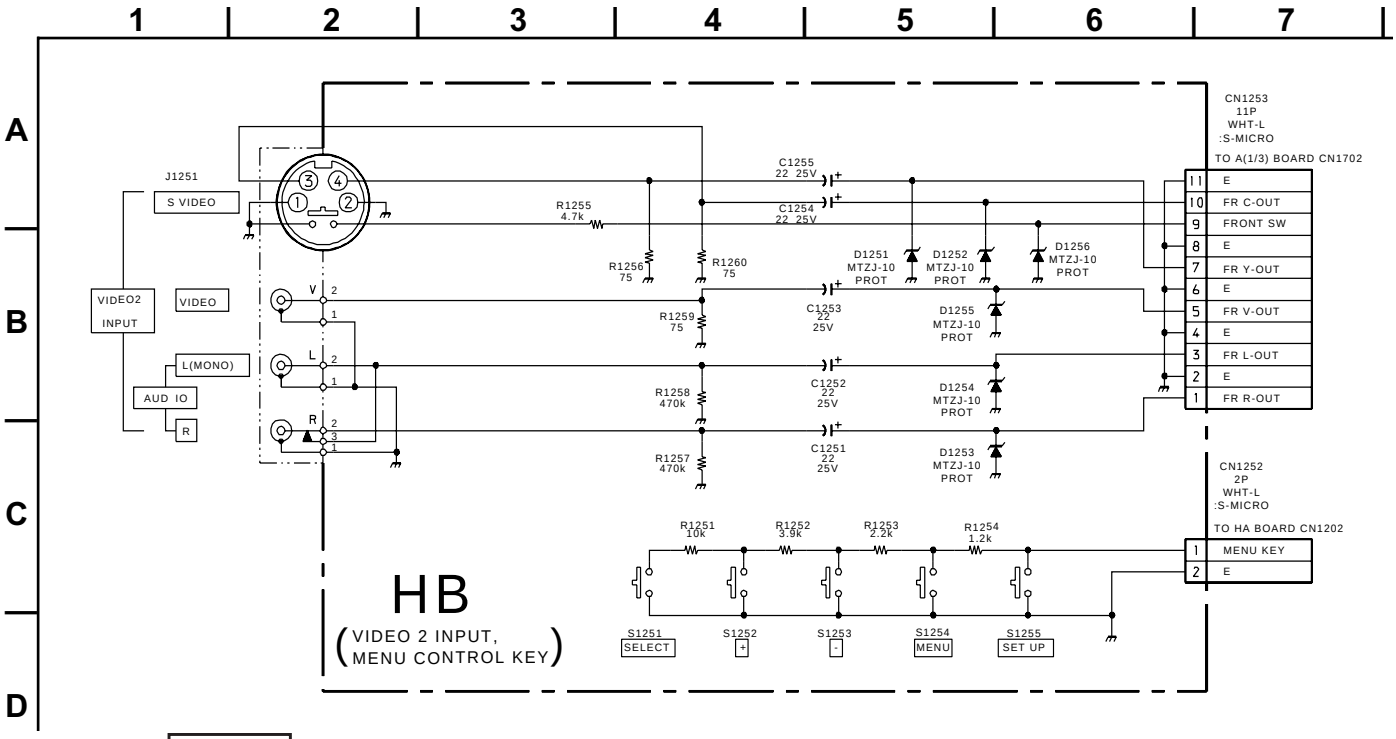
HA BOARD SCHEMATIC DIAGRAM



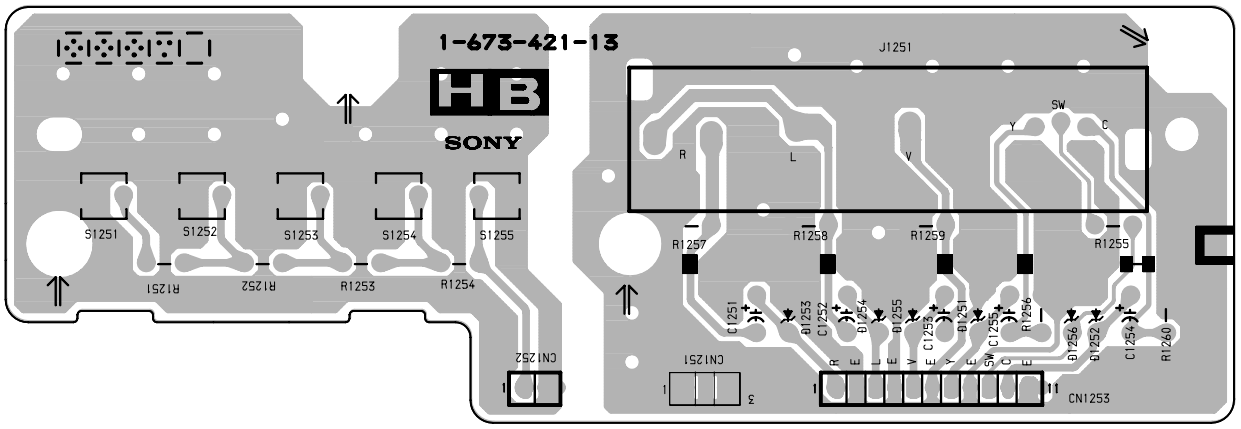
HA [FUNCTION KEY]



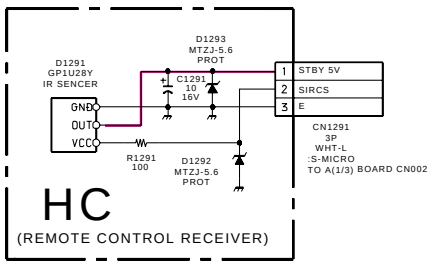
HB BOARD SCHEMATIC DIAGRAM



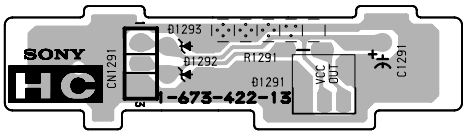
HB [VIDEO-2 INPUT, MENU CONTROL KEYS]



HC BOARD SCHEMATIC DIAGRAM

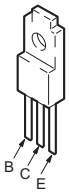


HC [REMOTE CONTROL RECEIVER]



5-5. SEMICONDUCTORS

BA05T



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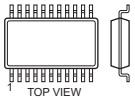
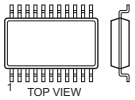
SDA9288XE



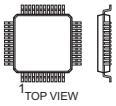
32pin

B**U4053BCF-T2**
CXA1315M
UPD6376GS-E2



16pin

CM0006CF



80pin

CXA1726AS

30pin

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CXP750010-026Q
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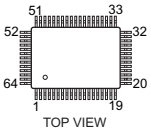
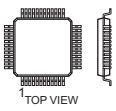
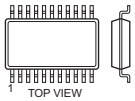


CXA2019AQ-T4



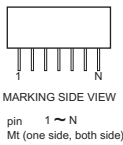
40pin

CXA2039M-T6

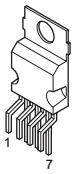


24pin

DM-58



LA78045



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TC7W66FU(TE12R)
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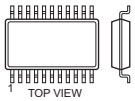

8pin

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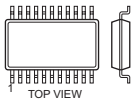
TC74HC08AF(EL)
TLC2932IPW

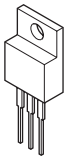


14pin

NJM4558D
UPC393C

8pin

NJM7805FA



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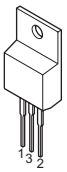
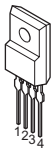


PQ09RD11



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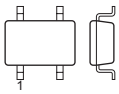
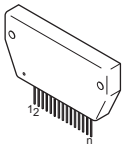


5pin

STK392-150



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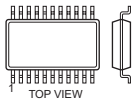
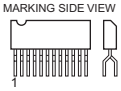


28pin

TDA7265



11pin

UPC339C

14pin

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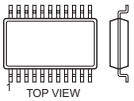
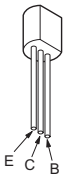
Z8622912SSC-00TR

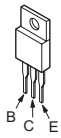


18pin

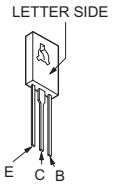
2SA1091-O



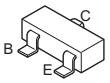
2SA1837
2SC4793
IRF614



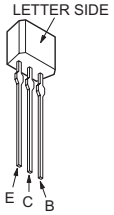
2SC2611
2SC2688-(5)LK



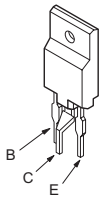
2SA1162-G
2SD601A-Q
DTC143TKA-T146
DTC144EKA-T146



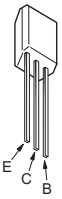
2SA1175-HFE
2SA1309A
2SC2785-HFE
2SC3311A



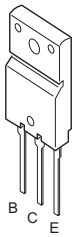
2SC5022-02



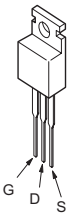
2SD2144S-UVW
2SD2144S-V



2SD2578-RF

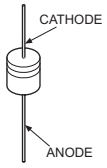


2SK2663

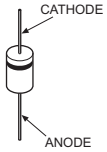


5-5. SEMICONDUCTORS (continued)

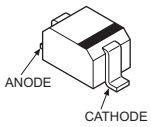
11ES2
D1N20R
D1NL20U
D2L20U
MTZJ-10B
MTZJ-13
MTZJ-15B
MTZJ-2.7A
MTZJ-3.9B
MTZJ-4.7C
MTZJ-5.1B
MTZJ-7.5B
MTZJ-T-77-15B
MTZJ-T-77-18B
MTZJ-T-77-24A
MTZJ-T-77-5.6B
MTZJ-T-77-6.2B
MTZJ-T-77-8.2B



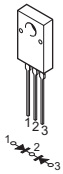
1SS133-T17
D3S6M-F
ERA22-08
ERC04-06SE
ERC06-15S
ERC91-02



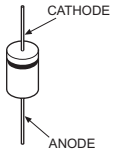
1SS355TE-17
UDZ-TE17-10B
UDZ-TE-17-22B
UDZ-TE17-33B
UDZS-TE17-5.6B
UDZS-TE17-8.2B



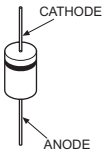
D10SC6M-4012



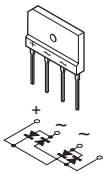
D1NL20U



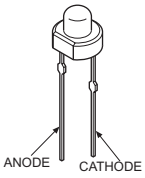
D1NS6
EL1Z
GP08DPKG23
RGP02-20EL-6394
RGP10GPKG23
RGP15J-6040G23



D4SBS4-F



SLR-325VCT31



SECTION 6: EXPLODED VIEWS

Components not identified by a part number or description are not stocked because they are seldom required for routine service.

The component parts of an assembly are indicated by the reference numbers in the far right column of the parts list and within the dotted lines of the diagram.

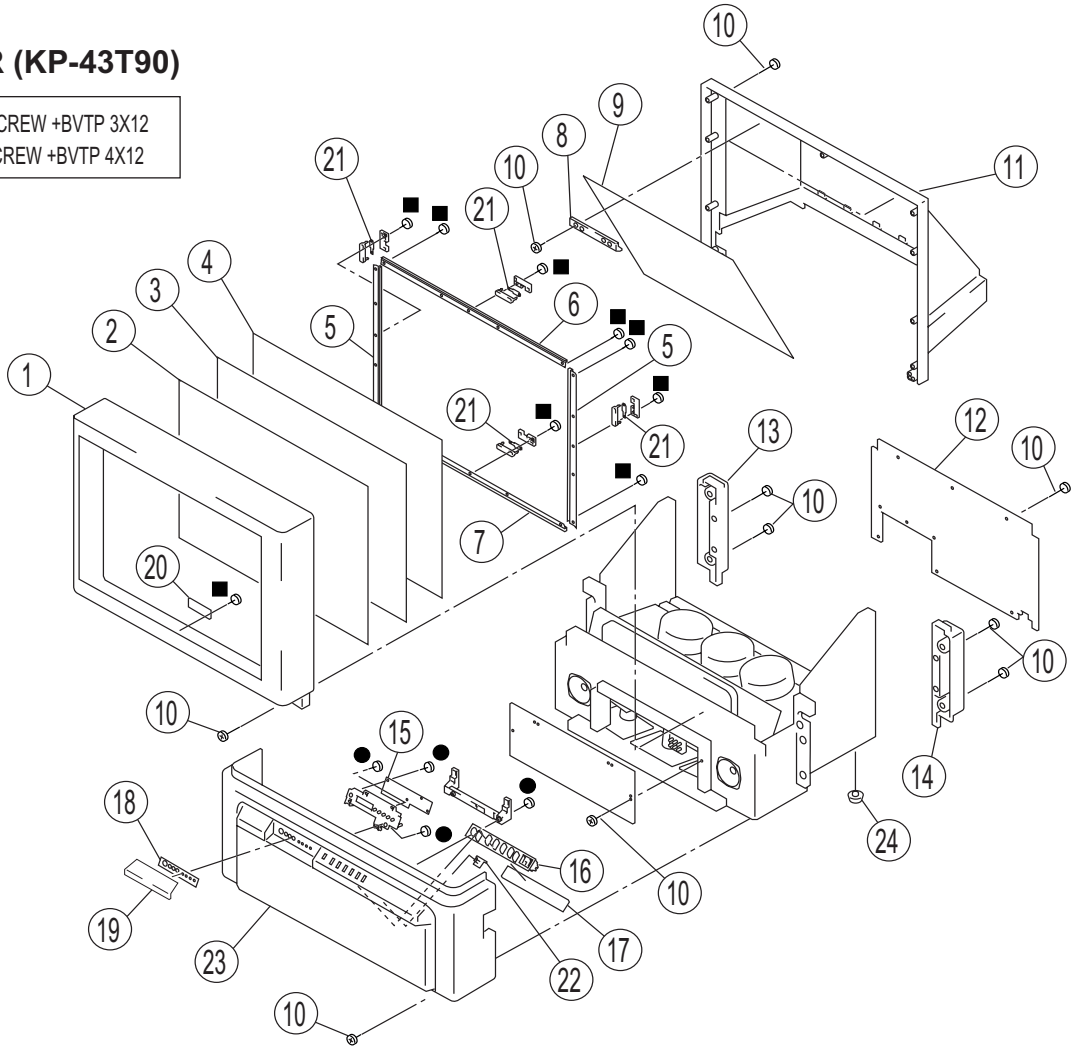
*** Items marked with an asterisk are not stocked since they are seldom required for routine service. Expect some delay when ordering these components.**

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

6-1. COVER (KP-43T90)

● 7-685-648-79 SCREW +BVTP 3X12
■ 7-685-661-14 SCREW +BVTP 4X12



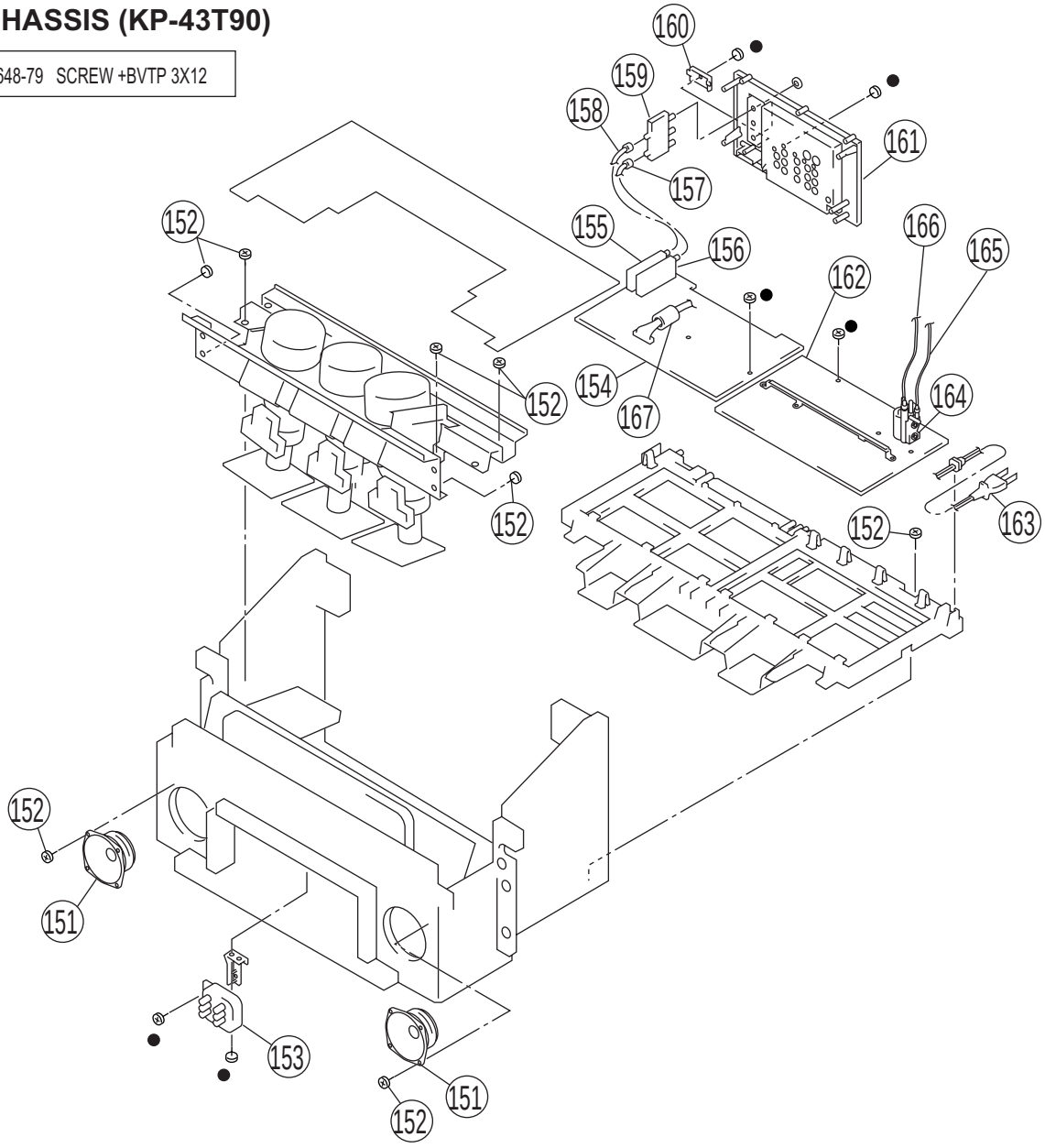
	REF.NO.	PART NO.	DESCRIPTION
	1	X-4038-924-1	BEZNET ASSY
	2	4-081-064-11	SCREEN (43), CONTRAST
	3	4-070-284-11	PLATE (L), DIFFUSION
	4	4-070-285-11	PLATE (43F), DIFFUSION
*	5	4-070-332-31	HOLDER (L), SCREEN (NC)
*	6	4-070-333-21	HOLDER (S), SCREEN (NC)
*	7	4-070-333-31	HOLDER (S), SCREEN (NC)
*	8	4-081-501-01	HOLDER, MIRROR
	9	4-082-889-01	MIRROR(43)
	10	4-081-063-01	SCREW, DOME WASHER HEX TAP (4X20)
*	11	4-081-500-01	COVER (43), MIRROR
*	12	4-082-892-01	BOARD, REAR
	13	4-069-703-01	CAP (L), CONTROL
	14	4-069-704-01	CAP (R), CONTROL
*	15	A-1372-620-A	HB BOARD, MOUNTED
	16	4-069-681-21	BUTTON, MULTI
*	17	A-1372-619-A	HA BOARD MOUNTED
	18	4-072-529-01	LABEL (2), SPEAKER GRILLE
	19	4-073-437-31	DOOR (V), CONTROL
*	20	A-1372-618-A	HC BOARD, MOUNTED
*	21	A-1390-933-A	S BOARD, MOUNTED
	22	4-069-682-01	GUIDE, LED
*	23	X-4038-925-1	PANEL ASSY, CONTROL [19]
	24	4-057-611-01	FOOT

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

6-2. CHASSIS (KP-43T90)

● 7-685-648-79 SCREW +BVTP 3X12



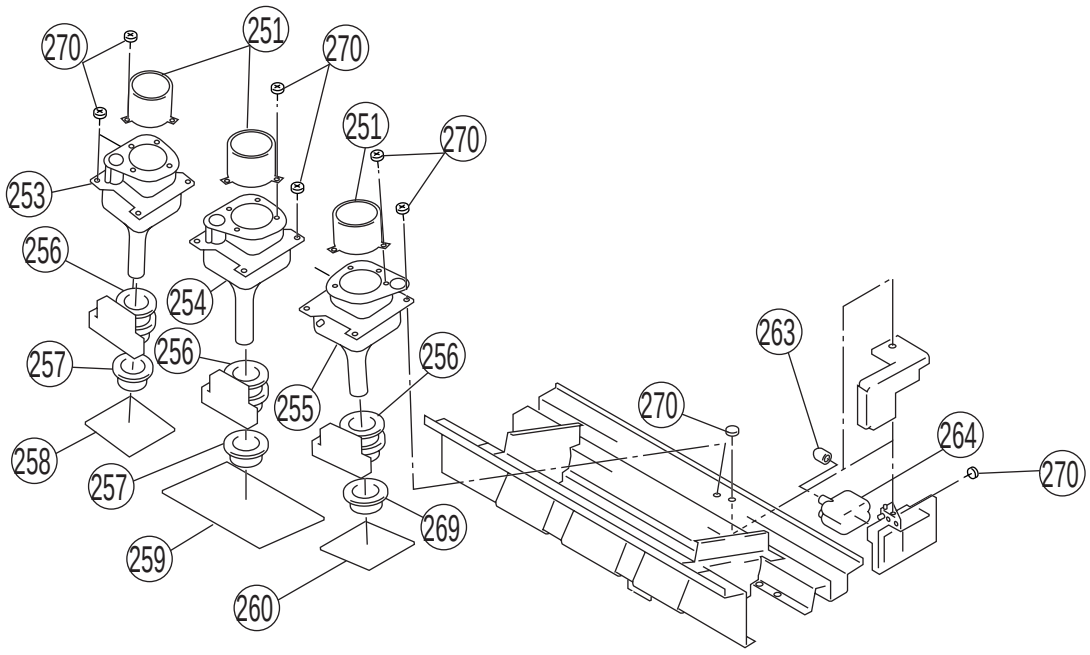
	REF.NO.	PART NO.	DESCRIPTION
	151	1-529-396-12	SPEAKER (10CM)
	152	4-081-063-01	SCREW, DOME WASHER HEX TAPPING (4 X 20)
⚠	153	1-223-925-11	RESISTOR ASSY (HIGH-VOLTAGE)
*	154	A-1299-423-A	A BOARD, COMPLETE
	155	8-598-542-50	TUNER, FSS BTF-WA412
	156	8-598-430-50	TUNER, FSS BTF-FA401
*	157	1-557-056-31	CABLE, P-P
*	158	1-556-945-21	CABLE, P-P
⚠	159	8-598-414-20	CHANGER, ANTENNA AS-2F
	160	4-069-675-01	CAP, TERMINAL BOARD
⚠	161	4-069-674-22	TERMINAL BOARD

	REF.NO.	PART NO.	DESCRIPTION
*	162	A-1316-475-A	G BOARD, COMPLETE
			The high voltage leads associated with the FBT on this board are not included and must be ordered separately. See items 165 and 166.
⚠	163	1-790-001-11	CORD, AC POWER (WITH CONNECTOR)
⚠	164	1-453-238-31	FBT ASSY, NX-4007//X4P4
⚠	165	1-900-249-96	FOCUS LEAD ASSY
⚠	166	1-779-095-23	LEAD ASSY, HIGH-VOLTAGE
	167	1-500-021-11	CLAMP, SLEEVE FERRITE

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

6-3. PICTURE TUBE (KP-43T90)



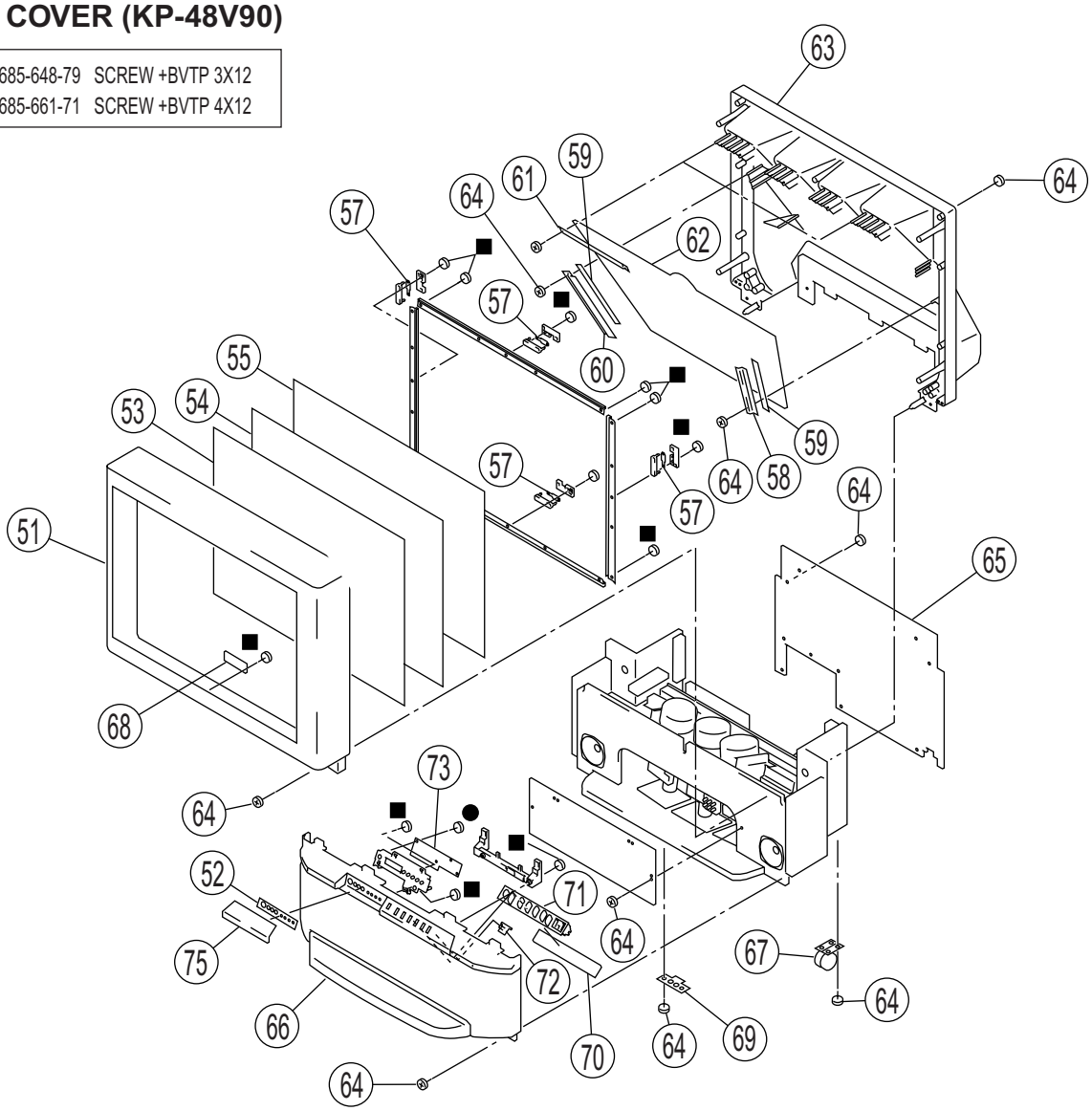
REF.NO.		PART NO.	DESCRIPTION
	251	4-056-258-11	LENS (DELTA 78)
⚠	253	8-733-571-31	CRT 07MXC2(R)(NEW GUN)
⚠	254	8-733-570-31	CRT 07MXC2(G)(NEW GUN)
⚠	255	8-733-574-21	CRT 07MAC2(B)(C/D CPL)
⚠	256	1-451-496-11	DEFLECTION YOKE
⚠	257	1-452-790-21	NECK ASSY
	258	A-1331-922-A	CR BOARD MOUNTED
*	259	A-1331-923-A	CG BOARD MOUNTED
*	260	A-1331-924-A	CB BOARD, MOUNTED
	263	4-373-137-01	CAP (Z), RUBBER
⚠	264	8-598-955-31	BLOCK ASSY, HV HVB-1031
⚠	269	1-452-909-41	MAGNET ASSY, 4 POLE
	270	4-052-894-01	SCREW (4X20) TAPPING

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

6-4. COVER (KP-48V90)

● 7-685-648-79 SCREW +BVTP 3X12
■ 7-685-661-71 SCREW +BVTP 4X12



	REF.NO.	PART NO.	DESCRIPTION
	51	X-4038-919-1	BEZNET ASSY (48V)
	52	4-072-529-01	LABEL (2), SPEAKER GRILLE
	53	4-081-066-11	SCREEN (48) CONTRAST
	54	4-075-440-11	PLATE (48L), DIFFUSION
	55	4-058-455-12	PLATE (F), DIFFUSION
*	57	A-1390-933-A	S BOARD, MOUNTED
*	58	4-051-789-02	HOLDER, MIRSD (R)
*	59	4-049-098-01	CUSHION
*	60	4-051-790-02	HOLDER, MIRSD (L)
*	61	4-070-345-21	HOLDER (TOP), MIRROR
	62	4-071-048-02	MIRROR (48), REFLECTION
*	63	4-057-610-03	COVER, MIRROR

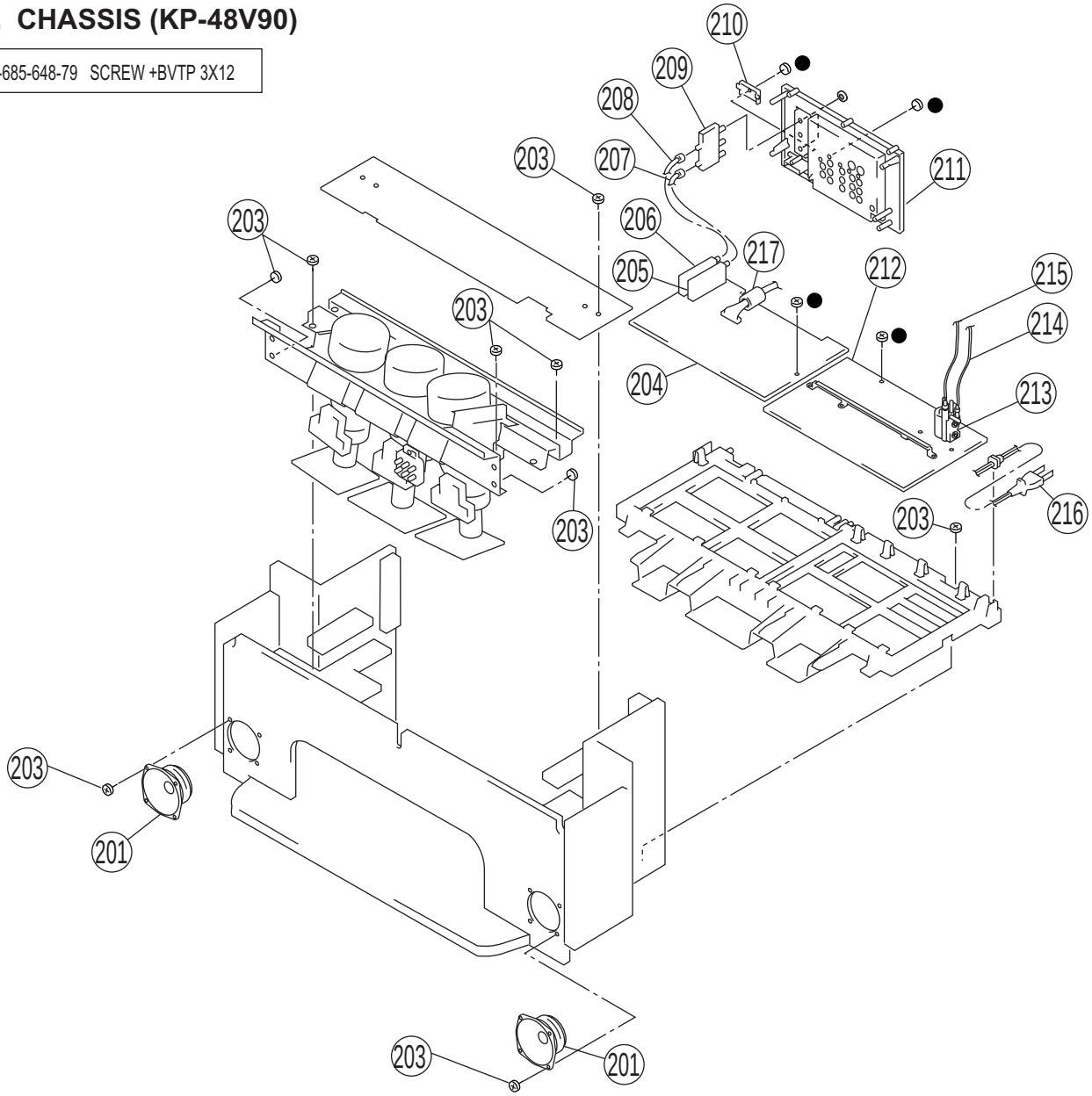
	REF.NO.	PART NO.	DESCRIPTION	[ASS'Y INCLUDES]
	64	4-081-063-01	SCREW DOME WASHER, (4X20) TAPPING	
*	65	4-071-126-01	BOARD, REAR (48)	
	66	X-4038-922-1	GRILLE ASSY, SPEAKER	[75]
	67	4-040-755-01	CASTER (DIA. 30)	
*	68	A-1372-618-A	HC BOARD, MOUNTED	
	69	4-075-020-01	FOOT, PLASTIC	
*	70	A-1372-619-A	HA BOARD, MOUNTED	
	71	4-069-681-21	BUTTON, MULTI	
	72	4-069-682-01	GUIDE, LED	
*	73	A-1372-620-A	HB BOARD, MOUNTED	
	75	4-069-671-41	DOOR (V), CONTROL	

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

6-5. CHASSIS (KP-48V90)

● 7-685-648-79 SCREW +BVTP 3X12



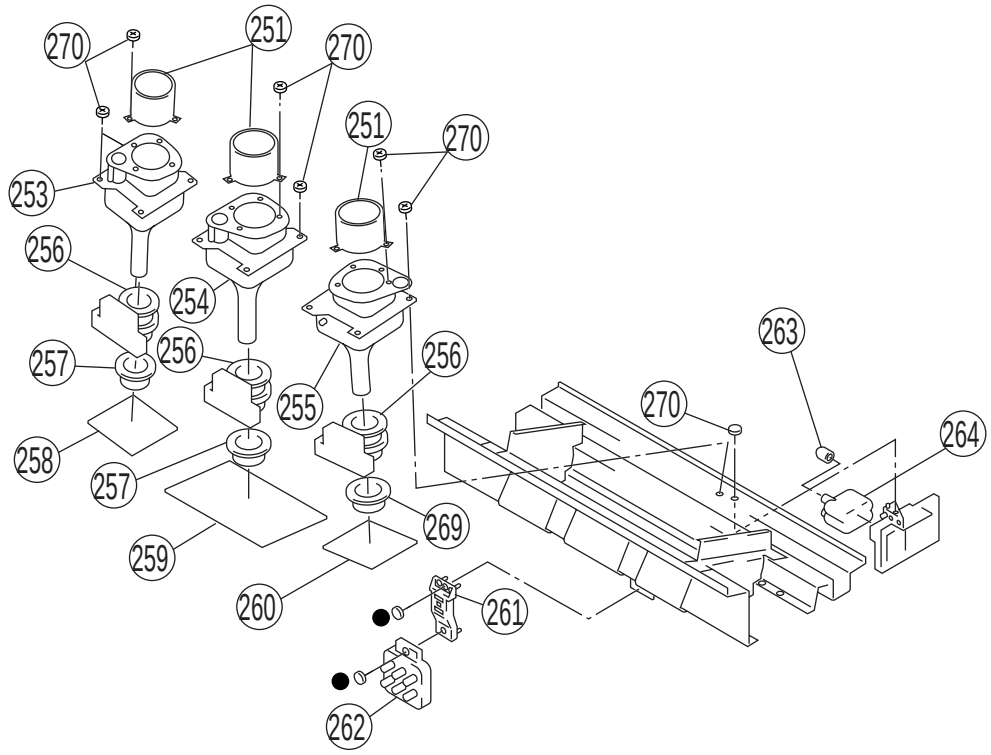
	REF.NO.	PART NO.	DESCRIPTION
	201	1-529-396-12	SPEAKER (10CM)
	203	4-081-063-01	SCREW, DOME WASHER HEX TAPPING (4 X 20)
*	204	A-1299-423-A	A BOARD, COMPLETE
	205	8-598-430-50	TUNER, FSS BTF-FA401
	206	8-598-542-50	TUNER, FSS BTF-WA412
*	207	1-557-056-31	CABLE, P-P
*	208	1-556-945-21	CABLE, P-P
⚠	209	8-598-414-20	CHANGER, ANTENNA AS-2F
	210	4-069-675-01	CAP, TERMINAL BOARD
⚠	211	4-069-674-22	TERMINAL BOARD
*	212	A-1316-498-A	G BOARD, COMPLETE The high voltage leads associated with the FBT on this board are not included and must be ordered separately. See items 214 and 215.
⚠	213	1-453-238-31	FBT ASSY, NX-4007//X4P4
⚠	214	1-900-249-96	FOCUS LEAD ASSY
⚠	215	1-779-095-23	LEAD ASSY, HIGH-VOLTAGE
⚠	216	1-790-001-11	CORD, AC POWER (WITH CONNECTOR)
	217	1-500-021-11	CLAMP, SLEEVE FERRITE

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

6-6. PICTURE TUBE (KP-48V90)

● 7-685-648-79 SCREW +BVTP 3X12
■ 7-685-661-71 SCREW +BVTP 4X12



	REF.NO.	PART NO.	DESCRIPTION
	251	4-056-258-11	LENS (DELTA 78)
⚠	253	8-733-572-31	CRT 07MXC3(R) (NEW GUN)
⚠	254	8-733-570-31	CRT 07MXC2(G) (NEW GUN)
⚠	255	8-733-575-21	CRT 07MAC3(B) (C/D CPL)
⚠	256	1-451-496-11	DEFLECTION YOKE
⚠	257	1-452-790-31	NECK ASSY
*	258	A-1331-922-A	CR BOARD, MOUNTED
*	259	A-1331-923-A	CG BOARD, MOUNTED
*	260	A-1331-924-A	CB BOARD, MOUNTED
*	261	4-063-403-01	BRACKET, FOCUS PACK

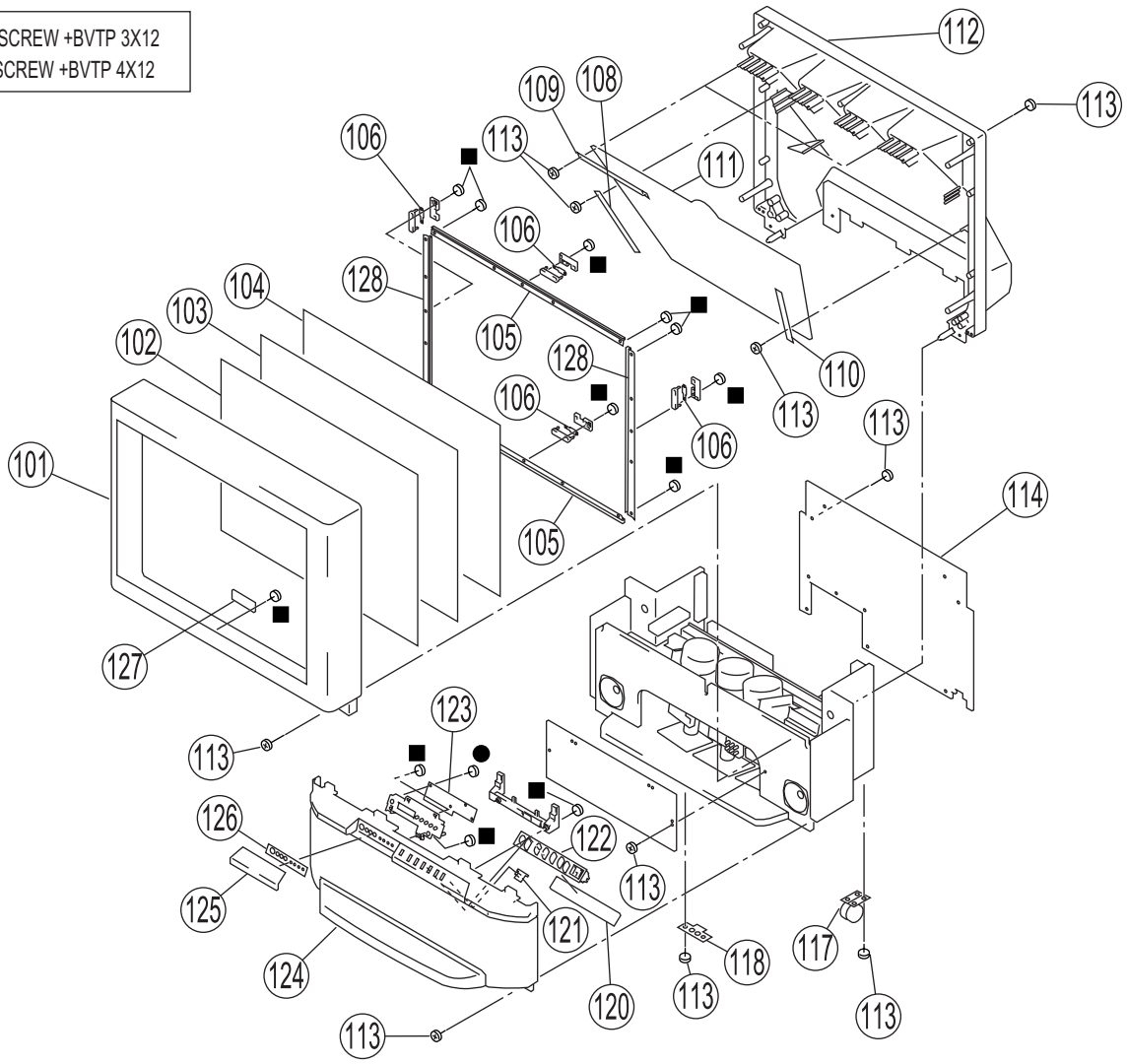
	REF.NO.	PART NO.	DESCRIPTION
⚠	262	1-223-925-81	RESISTOR ASSY (HIGH-VOLTAGE)
	263	4-373-137-01	CAP (Z), RUBBER
⚠	264	8-598-955-31	BLOCK ASSY, HV HVB-1031
⚠	269	1-452-909-41	MAGNET ASSY, 4 POLE
	270	4-052-894-01	SCREW (4X20), HEAD TAPPING

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

6-7. COVER (KP-53V90)

● 7-685-648-79 SCREW +BVTP 3X12
■ 7-685-661-14 SCREW +BVTP 4X12



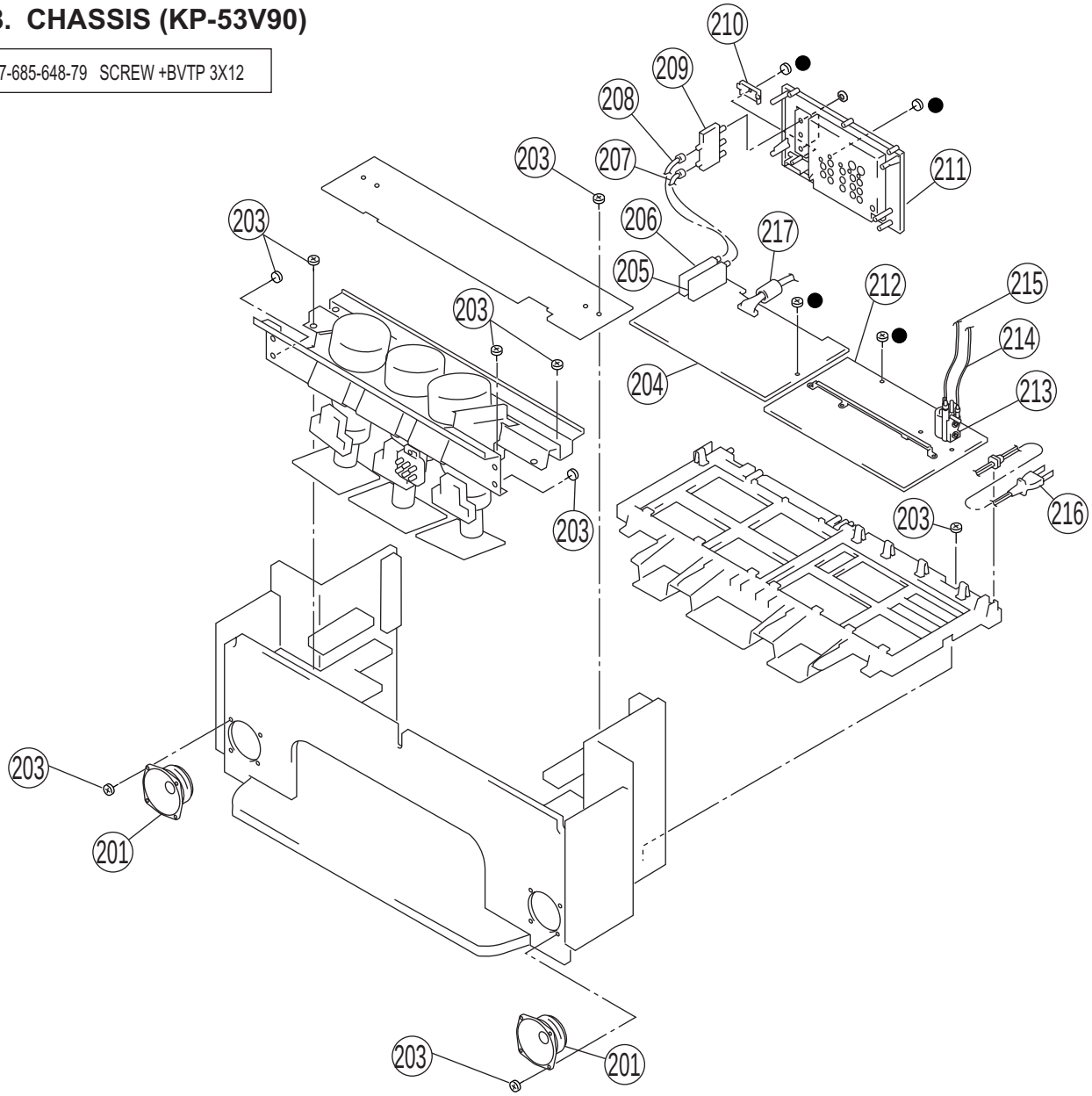
REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION	[ASS'Y INCLUDES]
101	X-4038-921-1	BEZNET ASSY	* 114	4-082-770-01	BOARD REAR	
102	4-081-065-11	SCREEN (53), CONTRAST	117	4-040-755-01	CASTER (DIA. 30)	
103	4-070-525-01	PLATE (L), DIFFUSION	118	4-075-020-01	FOOT, PLASTIC	
104	4-070-602-11	PLATE (F), DIFFUSION	* 120	A-1372-619-A	HA BOARD, MOUNTED	
* 105	4-070-328-12	HOLDER (L), SCREEN YC	121	4-069-682-01	GUIDE, LED	
* 106	A-1390-933-A	S BOARD, MOUNTED	122	4-069-681-21	BUTTON, MULTI	
* 108	4-081-504-01	HOLDER (SL), MIRROR	* 123	A-1372-620-A	HB BOARD, MOUNTED	
* 109	4-070-345-11	HOLDER (TOP), MIRROR	124	X-4038-922-1	GRILLE ASSY, SPEAKER	[125]
* 110	4-081-505-01	HOLDER (SR), MIRROR	125	4-069-671-41	DOOR (V), CONTROL	
			126	4-072-529-01	LABEL (2), SPEAKER GRILLE	
111	4-070-344-01	MIRROR, REFLECTION				
* 112	4-081-503-01	COVER, MIRROR	* 127	A-1372-618-A	HC BOARD, MOUNTED	
113	4-081-063-01	SCREW, DOME WASHER (4 X 20)	* 128	4-070-330-02	HOLDER (S), SCREEN YC	

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

6-8. CHASSIS (KP-53V90)

● 7-685-648-79 SCREW +BVTP 3X12



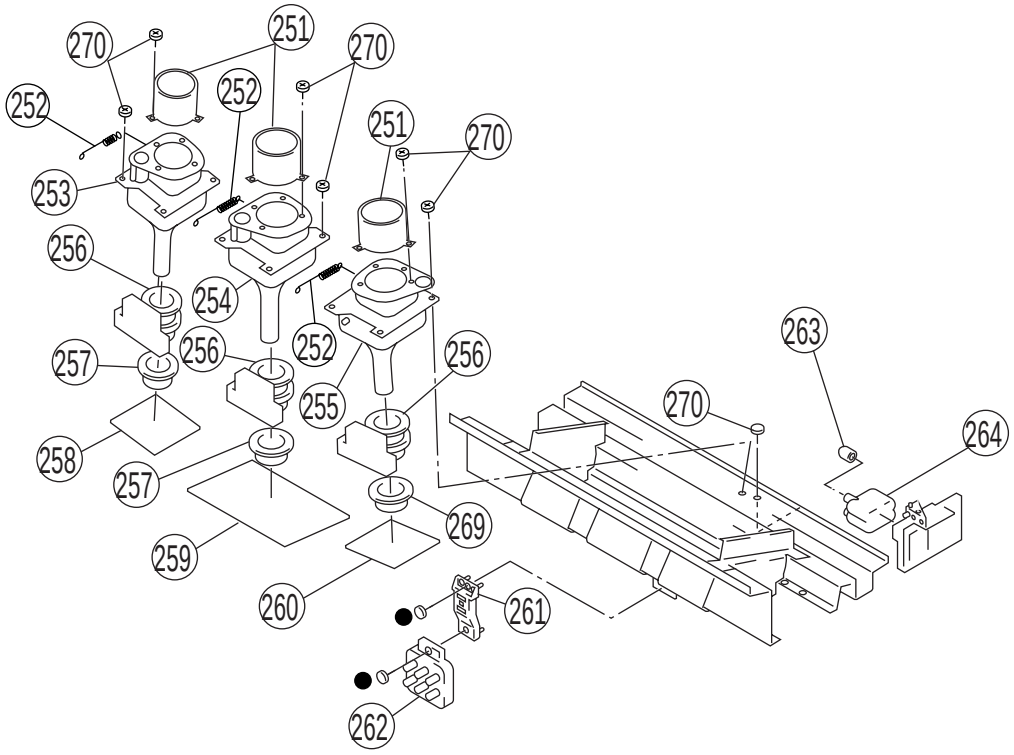
	REF.NO.	PART NO.	DESCRIPTION
	201	1-529-396-12	SPEAKER (10CM)
	203	4-081-063-01	SCREW, DOME WASHER HEX TAP 4X20
*	204	A-1299-423-A	A BOARD, COMPLETE
	205	8-598-430-50	TUNER, FSS BTF-FA401
	206	8-598-542-50	TUNER, FSS BTF-WA412
*	207	1-557-056-31	CABLE, P-P
*	208	1-556-945-21	CABLE, P-P
⚠	209	8-598-414-20	CHANGER, ANTENNA AS-2F
	210	4-069-675-01	CAP, TERMINAL BOARD
⚠	211	4-069-674-22	TERMINAL BOARD
*	212	A-1316-499-A	G BOARD, COMPLETE The high voltage leads associated with the FBT on this board are not included and must be ordered separately. See items 214 and 215.
⚠	213	1-453-238-31	FBT ASSY, NX-4007//X4P4
⚠	214	1-900-249-96	FOCUS LEAD ASSY
⚠	215	1-779-095-23	LEAD ASSY, HIGH-VOLTAGE
⚠	216	1-790-001-11	CORD, AC POWER (WITH CONNECTOR)
	217	1-500-021-11	CLAMP, SLEEVE FERRITE

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

6-9. PICTURE TUBE (KP-53V90)

● 7-685-648-79 SCREW +BVTP 3X12



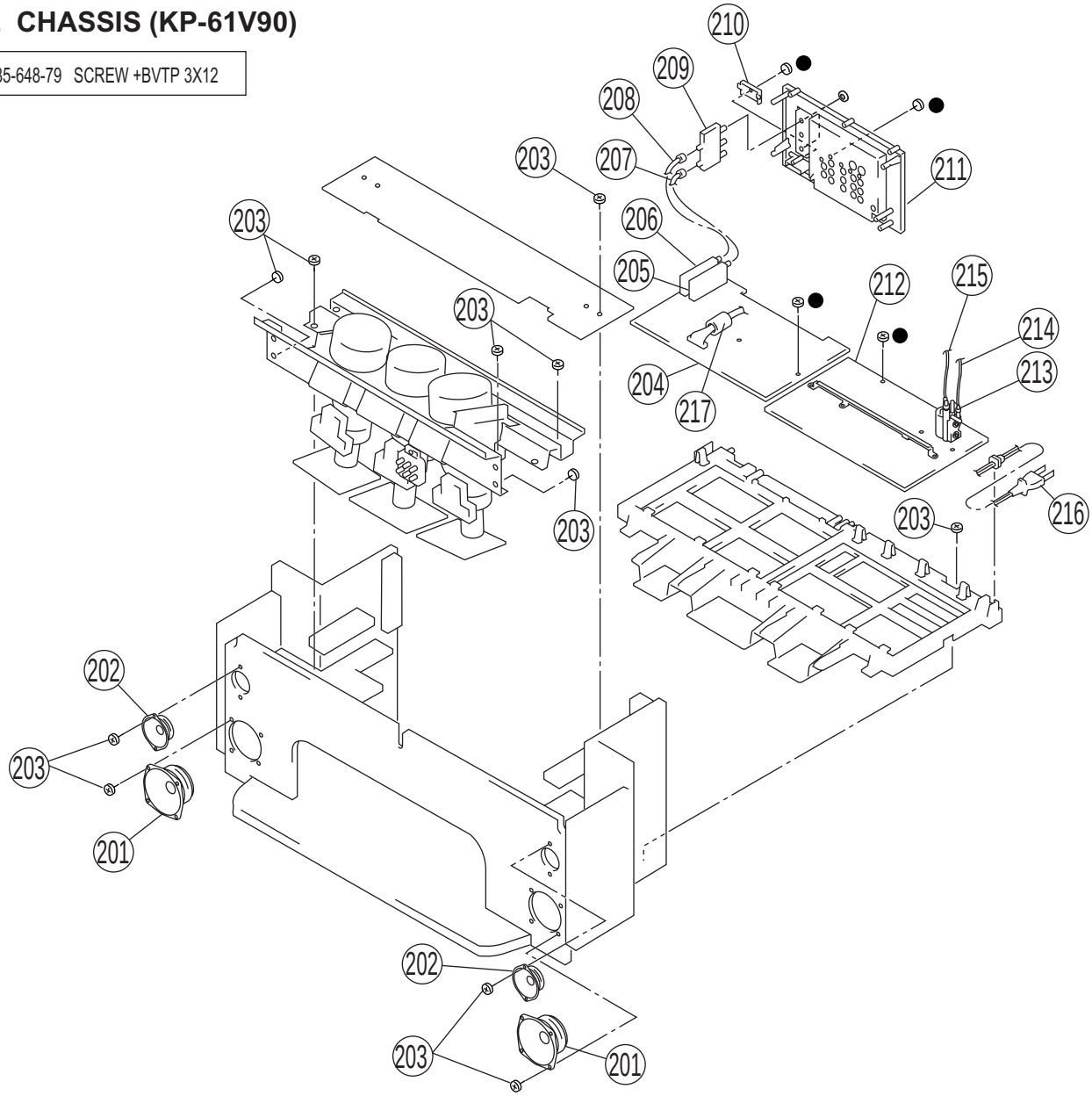
REF.NO.	PART NO.	DESCRIPTION
251	4-056-258-11	LENS (DELTA 78)
⚠ 253	8-733-572-31	CRT 07MXC3(R)(NEW GUN)
⚠ 254	8-733-575-21	CRT 07MAC3(B)(C/D CPL)
⚠ 255	8-733-570-31	CRT 07MXC2(G)(NEW GUN)
⚠ 256	1-451-496-11	DEFLECTION YOKE
⚠ 257	1-452-790-31	NECK ASSY
* 258	A-1331-922-A	CR BOARD, MOUNTED
* 259	A-1331-923-A	CG BOARD, MOUNTED
* 260	A-1331-924-A	CB BOARD, MOUNTED
⚠* 261	4-063-403-01	BRACKET, FOCUS PACK
⚠ 262	1-223-925-81	RESISTOR ASSY (HIGH-VOLTAGE)
263	4-373-137-01	CAP (Z), RUBBER
⚠ 264	8-598-955-31	BLOCK ASSY, HV HVB-1031
⚠ 269	1-452-909-41	MAGNET ASSY, 4 POLE
270	4-052-894-01	SCREW (4X20) TAPPING

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

6-11. CHASSIS (KP-61V90)

● 7-685-648-79 SCREW +BVTP 3X12



	REF.NO.	PART NO.	DESCRIPTION
	201	1-529-402-11	SPEAKER (16CM)
	202	1-529-403-21	SPEAKER (6.6CM)
	203	4-052-894-01	SCREW (4 X 20) TAPPING
	205	8-598-430-50	TUNER, FSS BTF-FA401
	206	8-598-542-50	TUNER, FSS BTF-WA412
*	204	A-1299-423-A	A BOARD, COMPLETE
*	207	1-557-056-31	CABLE, P-P
*	208	1-556-945-21	CABLE, P-P
⚠	209	1-771-787-11	SWITCH, RF ANTENNA
	210	4-069-675-01	CAP, TERMINAL BOARD

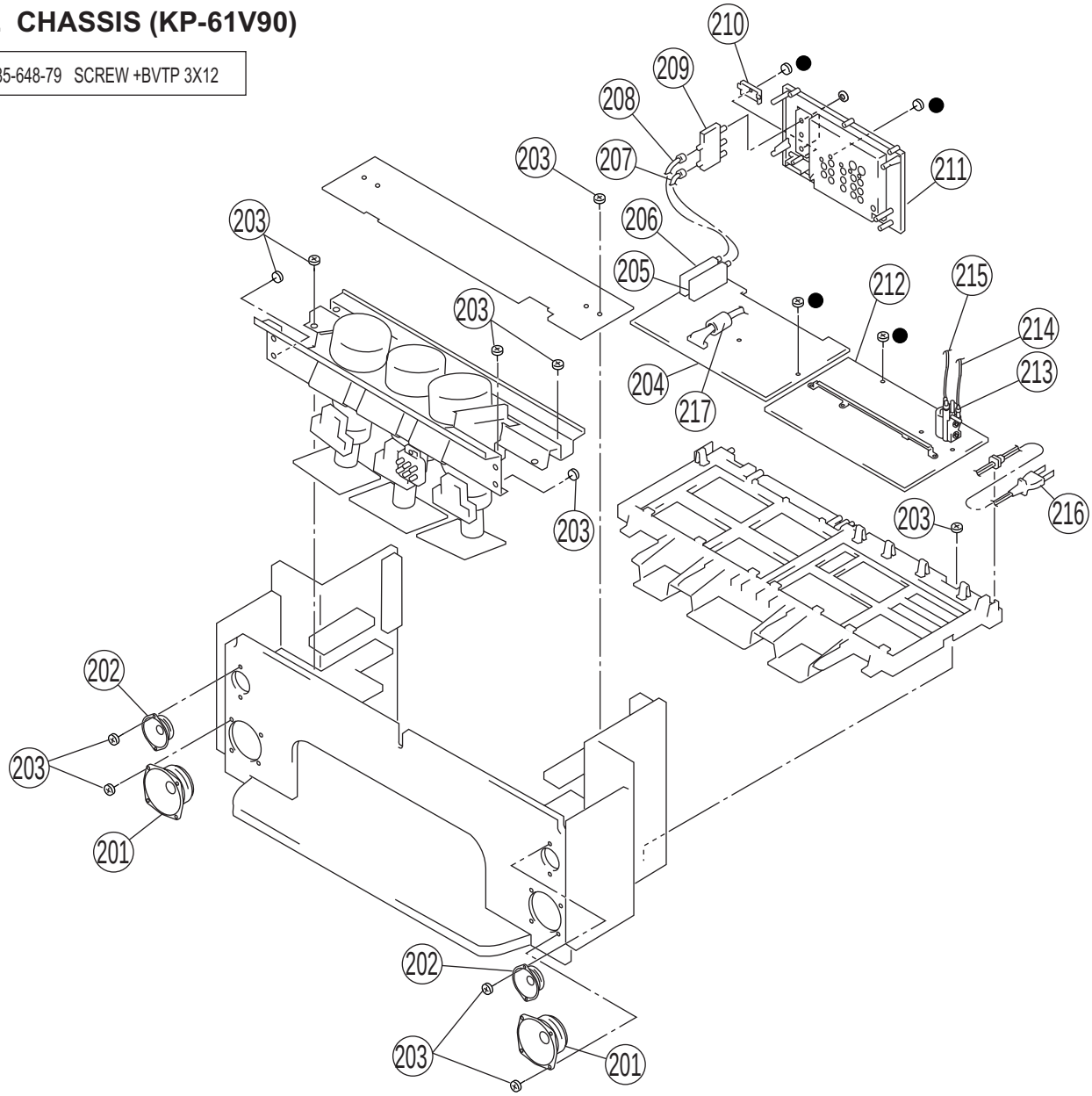
	REF.NO.	PART NO.	DESCRIPTION
⚠	211	4-069-674-22	TERMINAL BOARD
*	212	A-1316-498-A	G BOARD COMPLETE The high voltage leads associated with the FBT on this board are not included and must be ordered separately. See items 214 and 215.
⚠	213	1-453-238-31	FBT ASSY, NX-4007/X4P4
⚠	214	1-900-249-96	FOCUS LEAD ASSY
⚠	215	1-779-095-23	LEAD ASSY, HIGH-VOLTAGE
⚠	216	1-790-001-11	CORD, AC POWER (WITH CONNECTOR)
	217	1-500-021-11	CLAMP, SLEEVE FERRITE

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

6-11. CHASSIS (KP-61V90)

● 7-685-648-79 SCREW +BVTP 3X12



	REF.NO.	PART NO.	DESCRIPTION
	201	1-529-402-11	SPEAKER (16CM)
	202	1-529-403-21	SPEAKER (6.6CM)
	203	4-052-894-01	SCREW (4 X 20) TAPPING
*	204	A-1299-423-A	A BOARD, COMPLETE
*	207	1-557-056-31	CABLE, P-P
*	208	1-556-945-21	CABLE, P-P
⚠	209	1-771-787-11	SWITCH, RF ANTENNA
	210	4-069-675-01	CAP, TERMINAL BOARD
⚠	211	4-069-674-22	TERMINAL BOARD

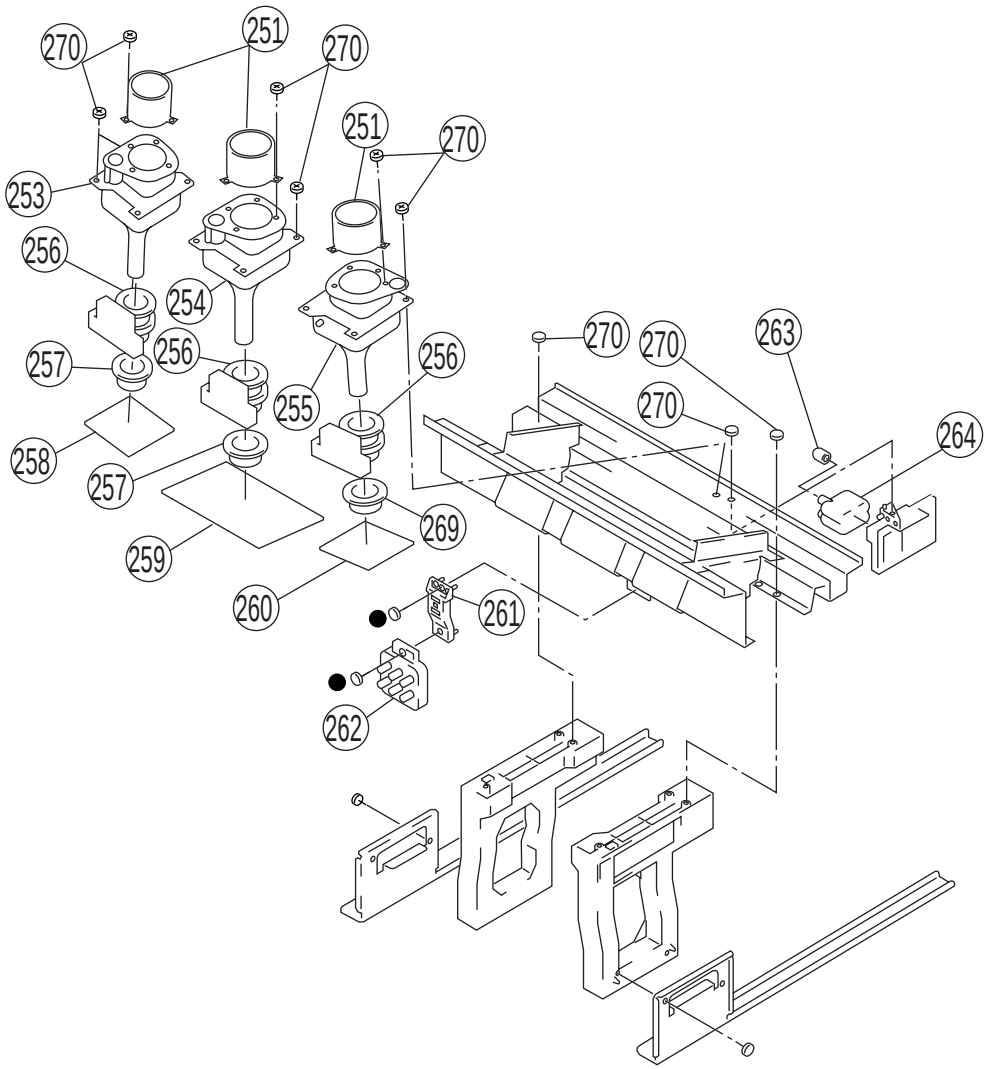
	REF.NO.	PART NO.	DESCRIPTION
*	212	A-1316-498-A	G BOARD COMPLETE The high voltage leads associated with the FBT on this board are not included and must be ordered separately. See items 214 and 215.
⚠	213	1-453-238-31	FBT ASSY, NX-4007/X4P4
⚠	214	1-900-249-96	FOCUS LEAD ASSY
⚠	215	1-779-095-23	LEAD ASSY, HIGH-VOLTAGE
⚠	216	1-790-001-11	CORD, AC POWER (WITH CONNECTOR)
	217	1-500-021-11	CLAMP, SLEEVE FERRITE

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

6-12. PICTURE TUBE (KP-61V90)

● 7-685-648-79 SCREW +BVTP 3X12



	REF.NO.	PART NO.	DESCRIPTION
	251	4-040-131-21	LENS (LINNIT POINT 6)
⚠	253	8-733-573-31	CRT 07MXC4(R)(NEW GUN)
⚠	254	8-733-570-31	CRT 07MXC2(G)(NEW GUN)
⚠	255	8-733-576-21	CRT 07MAC4(B)(E)(C/D CPL)
⚠	256	1-451-496-11	DEFLECTION YOKE
⚠	257	1-452-790-31	NECK ASSY
*	258	A-1331-922-A	CR BOARD, MOUNTED
*	259	A-1331-923-A	CG BOARD, MOUNTED
*	260	A-1331-924-A	CB BOARD, MOUNTED
⚠*	261	4-063-403-01	BRACKET, FOCUS PACK
⚠	262	1-223-925-81	RESISTOR ASSY (HIGH-VOLTAGE)
	263	4-373-137-01	CAP (Z), RUBBER
⚠	264	8-598-955-31	BLOCK ASSY, HV HVB-1031
⚠	269	1-452-909-41	MAGNET ASSY, 4 POLE

SECTION 7: ELECTRICAL PARTS LIST

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

When ordering parts by reference number, please include the board name.

The components in this manual identified by the following symbol: ⋈ indicate parts that have been carefully factory-selected to satisfy regulations regarding X-ray radiation for each set.

Should replacement be required for one of these components, replace only with the value originally used.

*** Items marked with an asterisk are not stocked since they are seldom required for routine service. Expect some delay when ordering these components.**

RESISTORS
- **All resistors are in ohms**
- **F : nonflammable**
- **All variable and adjustable resistors have characteristic curve B, unless otherwise noted.**

A

REF.NO.	PART NO.	DESCRIPTION	VALUES		
A					
	* A-1299-423-A	A BOARD, COMPLETE			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
	CAPACITOR				
C002	1-164-816-11	CERAMIC CHIP	220pF	2%	50V
C003	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C004	1-165-176-11	CERAMIC CHIP	0.047µF	10%	16V
C005	1-126-935-11	ELECT	470µF	20%	6.3V
C006	1-126-960-11	ELECT	1µF	20%	50V
C015	1-164-816-11	CERAMIC CHIP	220pF	2%	50V
C016	1-165-176-11	CERAMIC CHIP	0.047µF	10%	16V
C039	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C040	1-126-916-11	ELECT	1000µF	20%	6.3V
C041	1-162-916-11	CERAMIC CHIP	12pF	5%	50V
C042	1-126-960-11	ELECT	1µF	20%	50V
C044	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C072	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C080	1-162-915-11	CERAMIC CHIP	10pF	0.50pF	50V
C081	1-162-915-11	CERAMIC CHIP	10pF	0.50pF	50V
C082	1-162-915-11	CERAMIC CHIP	10pF	0.50pF	50V
C085	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C086	1-162-916-11	CERAMIC CHIP	12pF	5%	50V
C087	1-126-964-11	ELECT	10µF	20%	50V
C091	1-162-915-11	CERAMIC CHIP	10pF	0.50pF	50V
C093	1-126-933-11	ELECT	100µF	20%	16V
C094	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C098	1-162-915-11	CERAMIC CHIP	10pF	0.50pF	50V
C099	1-162-915-11	CERAMIC CHIP	10pF	0.50pF	50V
C100	1-162-915-11	CERAMIC CHIP	10pF	0.50pF	50V
C101	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C102	1-162-921-11	CERAMIC CHIP	33pF	5%	50V
C103	1-162-921-11	CERAMIC CHIP	33pF	5%	50V
C104	1-162-915-11	CERAMIC CHIP	10pF	0.50pF	50V
C105	1-162-915-11	CERAMIC CHIP	10pF	0.50pF	50V
C106	1-162-915-11	CERAMIC CHIP	10pF	0.50pF	50V
C107	1-104-664-11	ELECT	47µF	20%	25V
C126	1-104-664-11	ELECT	47µF	20%	25V
C128	1-104-664-11	ELECT	47µF	20%	25V
C151	1-126-935-11	ELECT	470µF	20%	16V
C152	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C153	1-162-974-11	CERAMIC CHIP	0.01µF		50V
C154	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C155	1-104-664-11	ELECT	47µF	20%	25V
C156	1-126-933-11	ELECT	100µF	20%	16V
C157	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C159	1-162-966-11	CERAMIC CHIP	0.0022µF	10%	50V
C161	1-126-968-11	ELECT	100µF	20%	50V
C162	1-126-960-11	ELECT	1µF	20%	50V
C163	1-126-959-11	ELECT	0.47µF	20%	50V
C164	1-104-664-11	ELECT	47µF	20%	25V
C165	1-104-664-11	ELECT	47µF	20%	25V
C166	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C167	1-126-935-11	ELECT	470µF	20%	16V
C168	1-162-974-11	CERAMIC CHIP	0.01µF		50V
C170	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C171	1-126-933-11	ELECT	100µF	20%	16V
C172	1-126-964-11	ELECT	10µF	20%	50V
C173	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C174	1-126-933-11	ELECT	100µF	20%	16V
C175	1-104-664-11	ELECT	47µF	20%	25V
C176	1-162-966-11	CERAMIC CHIP	0.0022µF	10%	50V
C177	1-126-959-11	ELECT	0.47µF	20%	50V
C178	1-126-960-11	ELECT	1µF	20%	50V
C179	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C180	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V

A

REF.NO.	PART NO.	DESCRIPTION	VALUES		
C276	1-162-927-11	CERAMIC CHIP	100pF	5%	50V
C277	1-126-959-11	ELECT	0.47µF	20%	50V
C279	1-126-959-11	ELECT	0.47µF	20%	50V
C280	1-162-927-11	CERAMIC CHIP	100pF	5%	50V
C281	1-130-495-00	MYLAR	0.1µF	5%	50V
C282	1-130-495-00	MYLAR	0.1µF	5%	50V
C283	1-130-495-00	MYLAR	0.1µF	5%	50V
C284	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C285	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C286	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C287	1-126-964-11	ELECT	10µF	20%	50V
C288	1-130-495-00	MYLAR	0.1µF	5%	50V
C289	1-137-581-11	FILM	0.1µF	5%	100V
C290	1-126-935-11	ELECT	470µF	20%	16V
C291	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C293	1-162-967-11	CERAMIC CHIP	0.0033µF	10%	50V
C294	1-130-495-00	MYLAR	0.1µF	5%	50V
C296	1-126-961-11	ELECT	2.2µF	20%	50V
C297	1-162-927-11	CERAMIC CHIP	100pF	5%	50V
C299	1-126-959-11	ELECT	0.47µF	20%	50V
C300	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C301	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C302	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C303	1-126-933-11	ELECT	100µF	20%	16V
C304	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C305	1-162-968-11	CERAMIC CHIP	.0047µF	10%	50V
C306	1-126-959-11	ELECT	0.47µF	20%	50V
C307	1-126-959-11	ELECT	0.47µF	20%	50V
C308	1-126-963-11	ELECT	4.7µF	20%	50V
C309	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
C310	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C311	1-126-960-11	ELECT	1µF	20%	50V
C312	1-162-967-11	CERAMIC CHIP	0.0033µF	10%	50V
C313	1-164-816-11	CERAMIC CHIP	220pF	2%	50V
C314	1-104-664-11	ELECT	47µF	20%	25V
C315	1-162-924-11	CERAMIC CHIP	56pF	5%	50V
C316	1-115-416-11	CERAMIC CHIP	0.001µF	5%	25V
C317	1-104-664-11	ELECT	47µF	20%	25V
C318	1-126-933-11	ELECT	100µF	20%	16V
C319	1-126-964-11	ELECT	10µF	20%	50V
C320	1-126-934-11	ELECT	220µF	20%	16V
C321	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C323	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V

REF.NO.	PART NO.	DESCRIPTION	VALUES		
C325	1-126-964-11	ELECT	10µF	20%	50V
C326	1-104-664-11	ELECT	47µF	20%	25V
C327	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C328	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C329	1-104-664-11	ELECT	47µF	20%	25V
C418	1-126-964-11	ELECT	10µF	20%	50V
C427	1-126-964-11	ELECT	10µF	20%	50V
C433	1-126-963-11	ELECT	4.7µF	20%	50V
C437	1-130-489-00	MYLAR	0.033µF	5%	50V
C438	1-104-664-11	ELECT	47µF	20%	25V
C439	1-126-960-11	ELECT	1µF	20%	50V
C440	1-126-963-11	ELECT	4.7µF	20%	50V
C441	1-130-477-00	MYLAR	0.0033µF	5%	50V
C442	1-130-489-00	MYLAR	0.033µF	5%	50V
C443	1-130-471-00	MYLAR	0.001µF	5%	50V
C444	1-126-963-11	ELECT	4.7µF	20%	50V
C445	1-126-963-11	ELECT	4.7µF	20%	50V
C446	1-130-477-00	MYLAR	0.0033µF	5%	50V
C447	1-130-489-00	MYLAR	0.033µF	5%	50V
C448	1-130-471-00	MYLAR	0.001µF	5%	50V
C449	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C450	1-126-963-11	ELECT	4.7µF	20%	50V
C451	1-126-933-11	ELECT	100µF	20%	16V
C453	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C454	1-130-489-00	MYLAR	0.033µF	5%	50V
C456	1-126-933-11	ELECT	100µF	20%	16V
C457	1-126-934-11	ELECT	220µF	20%	16V
C458	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C459	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C460	1-126-943-11	ELECT	2200µF	20%	25V
C461	1-126-943-11	ELECT	2200µF	20%	25V
C462	1-126-961-11	ELECT	2.2µF	20%	50V
C463	1-126-961-11	ELECT	2.2µF	20%	50V
C464	1-126-933-11	ELECT	100µF	20%	16V
C465	1-104-664-11	ELECT	47µF	20%	25V
C466	1-104-664-11	ELECT	47µF	20%	25V
C467	1-104-664-11	ELECT	47µF	20%	25V
C468	1-126-963-11	ELECT	4.7µF	20%	50V
C469	1-104-664-11	ELECT	47µF	20%	25V
C470	1-104-664-11	ELECT	47µF	20%	25V
C473	1-104-665-11	ELECT	100µF	20%	25V
C474	1-130-495-00	MYLAR	0.1µF	5%	50V
C475	1-130-495-00	MYLAR	0.1µF	5%	50V
C476	1-130-495-00	MYLAR	0.1µF	5%	50V

A

REF.NO.	PART NO.	DESCRIPTION	VALUES		
C477	1-130-495-00	MYLAR	0.1µF	5%	50V
C681	1-104-664-11	ELECT	47µF	20%	25V
C682	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C683	1-126-935-11	ELECT	470µF	20%	16V
C684	1-126-933-11	ELECT	100µF	20%	16V
C685	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C686	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C687	1-104-664-11	ELECT	47µF	20%	25V
C688	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C801	1-164-730-11	CERAMIC CHIP	0.0012µF	10%	50V
C802	1-164-173-11	CERAMIC CHIP	0.0039µF	10%	50V
C803	1-164-173-11	CERAMIC CHIP	0.0039µF	10%	50V
C804	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C805	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C806	1-104-664-11	ELECT	47µF	20%	25V
C807	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C808	1-164-173-11	CERAMIC CHIP	0.0039µF	10%	50V
C809	1-164-173-11	CERAMIC CHIP	0.0039µF	10%	50V
C810	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C811	1-104-664-11	ELECT	47µF	20%	25V
C812	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C813	1-104-664-11	ELECT	47µF	20%	25V
C814	1-164-816-11	CERAMIC CHIP	220pF	2%	50V
C815	1-164-816-11	CERAMIC CHIP	220pF	2%	50V
C816	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C818	1-164-816-11	CERAMIC CHIP	220pF	2%	50V
C819	1-164-816-11	CERAMIC CHIP	220pF	2%	50V
C820	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C821	1-104-664-11	ELECT	47µF	20%	25V
C822	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C823	1-104-664-11	ELECT	47µF	20%	25V
C824	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C825	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C830	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C831	1-104-664-11	ELECT	47µF	20%	25V
C832	1-162-919-11	CERAMIC CHIP	22pF	5%	50V
C833	1-104-664-11	ELECT	47µF	20%	25V
C834	1-162-966-11	CERAMIC CHIP	0.0022µF	10%	50V
C835	1-162-919-11	CERAMIC CHIP	22pF	5%	50V
C842	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C843	1-104-664-11	ELECT	47µF	20%	25V
C845	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C848	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C849	1-104-664-11	ELECT	47µF	20%	25V

REF.NO.	PART NO.	DESCRIPTION	VALUES		
C850	1-104-664-11	ELECT	47µF	20%	25V
C851	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C852	1-104-664-11	ELECT	47µF	20%	25V
C855	1-162-960-11	CERAMIC CHIP	220pF	10%	50V
C856	1-104-664-11	ELECT	47µF	20%	25V
C858	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C862	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C863	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C864	1-162-921-11	CERAMIC CHIP	33pF	5%	50V
C865	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C866	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C867	1-125-837-91	CERAMIC CHIP	1µF	10%	6.3V
C868	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C869	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C870	1-104-664-11	ELECT	47µF	20%	25V
C871	1-126-963-11	ELECT	4.7µF	20%	50V
C872	1-162-921-11	CERAMIC CHIP	33pF	5%	50V
C873	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C875	1-104-664-11	ELECT	47µF	20%	25V
C876	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C877	1-104-664-11	ELECT	47µF	20%	25V
C878	1-104-664-11	ELECT	47µF	20%	25V
C879	1-104-664-11	ELECT	47µF	20%	25V
C880	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C881	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C882	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C883	1-104-664-11	ELECT	47µF	20%	25V
C884	1-104-664-11	ELECT	47µF	20%	25V
C885	1-104-664-11	ELECT	47µF	20%	25V
C886	1-104-664-11	ELECT	47µF	20%	25V
C887	1-104-664-11	ELECT	47µF	20%	25V
C888	1-104-664-11	ELECT	47µF	20%	25V
C889	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C890	1-104-664-11	ELECT	47µF	20%	25V
C891	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C892	1-104-664-11	ELECT	47µF	20%	25V
C893	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C894	1-104-664-11	ELECT	47µF	20%	25V
C897	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C898	1-126-934-11	ELECT	220µF	20%	16V
C899	1-162-910-11	CERAMIC CHIP	5pF	0.25pF	50V
C900	1-162-910-11	CERAMIC CHIP	5pF	0.25pF	50V
C901	1-162-910-11	CERAMIC CHIP	5pF	0.25pF	50V

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
C902	1-162-910-11	CERAMIC CHIP	5pF	0.25pF	50V
C903	1-162-910-11	CERAMIC CHIP	5pF	0.25pF	50V
C904	1-162-910-11	CERAMIC CHIP	5pF	0.25pF	50V
C905	1-162-910-11	CERAMIC CHIP	5pF	0.25pF	50V
C906	1-162-910-11	CERAMIC CHIP	5pF	0.25pF	50V
C907	1-162-910-11	CERAMIC CHIP	5pF	0.25pF	50V
C908	1-162-910-11	CERAMIC CHIP	5pF	0.25pF	50V
C909	1-162-910-11	CERAMIC CHIP	5pF	0.25pF	50V
C910	1-162-910-11	CERAMIC CHIP	5pF	0.25pF	50V
C911	1-162-966-11	CERAMIC CHIP	0.0022µF	10%	50V
C912	1-104-664-11	ELECT	47µF	20%	25V
C913	1-104-664-11	ELECT	47µF	20%	25V
C914	1-104-664-11	ELECT	47µF	20%	25V
C915	1-104-664-11	ELECT	47µF	20%	25V
C916	1-104-664-11	ELECT	47µF	20%	25V
C917	1-104-664-11	ELECT	47µF	20%	25V
C918	1-115-416-11	CERAMIC CHIP	0.001µF	5%	25V
C919	1-115-416-11	CERAMIC CHIP	0.001µF	5%	25V
C920	1-115-416-11	CERAMIC CHIP	0.001µF	5%	25V
C921	1-115-416-11	CERAMIC CHIP	0.001µF	5%	25V
C922	1-115-416-11	CERAMIC CHIP	0.001µF	5%	25V
C923	1-115-416-11	CERAMIC CHIP	0.001µF	5%	25V
C926	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C927	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C928	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C929	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C930	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C931	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C932	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C933	1-162-968-11	CERAMIC CHIP	.0047µF	10%	50V
C934	1-162-968-11	CERAMIC CHIP	.0047µF	10%	50V
C935	1-162-968-11	CERAMIC CHIP	.0047µF	10%	50V
C936	1-162-968-11	CERAMIC CHIP	.0047µF	10%	50V
C937	1-162-968-11	CERAMIC CHIP	.0047µF	10%	50V
C938	1-162-968-11	CERAMIC CHIP	.0047µF	10%	50V
C951	1-162-969-11	CERAMIC CHIP	0.0068µF	10%	25V
C952	1-162-969-11	CERAMIC CHIP	0.0068µF	10%	25V
C953	1-162-969-11	CERAMIC CHIP	0.0068µF	10%	25V
C954	1-162-969-11	CERAMIC CHIP	0.0068µF	10%	25V
C955	1-162-969-11	CERAMIC CHIP	0.0068µF	10%	25V
C956	1-162-969-11	CERAMIC CHIP	0.0068µF	10%	25V
C957	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C958	1-164-156-11	CERAMIC CHIP	0.1µF		25V

REF.NO.	PART NO.	DESCRIPTION	VALUES		
C959	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C960	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C961	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C962	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C963	1-104-664-11	ELECT	47µF	20%	25V
C964	1-104-664-11	ELECT	47µF	20%	25V
C965	1-104-664-11	ELECT	47µF	20%	25V
C966	1-104-664-11	ELECT	47µF	20%	25V
C967	1-104-664-11	ELECT	47µF	20%	25V
C968	1-104-664-11	ELECT	47µF	20%	25V
C969	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C970	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C971	1-104-664-11	ELECT	47µF	20%	25V
C1102	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C1103	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C1104	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C1105	1-104-664-11	ELECT	47µF	20%	25V
C1106	1-104-664-11	ELECT	47µF	20%	25V
C1107	1-126-959-11	ELECT	0.47µF	20%	50V
C1108	1-104-664-11	ELECT	47µF	20%	25V
C1109	1-126-959-11	ELECT	0.47µF	20%	50V
C1110	1-126-959-11	ELECT	0.47µF	20%	50V
C1111	1-126-959-11	ELECT	0.47µF	20%	50V
C1112	1-104-664-11	ELECT	47µF	20%	25V
C1113	1-104-664-11	ELECT	47µF	20%	25V
C1114	1-104-664-11	ELECT	47µF	20%	25V
C1115	1-126-959-11	ELECT	0.47µF	20%	50V
C1116	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C1117	1-162-923-11	CERAMIC CHIP	47pF	5%	50V
C1118	1-164-816-11	CERAMIC CHIP	220pF	2%	50V
C1119	1-126-964-11	ELECT	10µF	20%	50V
C1120	1-126-964-11	ELECT	10µF	20%	50V
C1121	1-126-960-11	ELECT	1µF	20%	50V
C1122	1-113-619-11	CERAMIC CHIP	0.47µF		10V
C1123	1-104-664-11	ELECT	47µF	20%	25V
C1124	1-126-959-11	ELECT	0.47µF	20%	50V
C1125	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C1126	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C1127	1-126-959-11	ELECT	0.47µF	20%	50V
C1128	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C1129	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C1130	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C1131	1-104-664-11	ELECT	47µF	20%	25V
C1132	1-104-664-11	ELECT	47µF	20%	25V

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
C1133	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C1134	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C1135	1-115-416-11	CERAMIC CHIP	0.001µF	5%	25V
C1138	1-104-664-11	ELECT	47µF	20%	25V
C1139	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C1140	1-104-664-11	ELECT	47µF	20%	25V
C1601	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C1602	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
C1603	1-110-563-11	CERAMIC CHIP	0.068µF	10%	16V
C1604	1-162-969-11	CERAMIC CHIP	0.0068µF	10%	25V
C1605	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C1606	1-164-505-11	CERAMIC CHIP	2.2µF		16V
C1607	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C1608	1-162-921-11	CERAMIC CHIP	33pF	5%	50V
C1609	1-164-505-11	CERAMIC CHIP	2.2µF		16V
C1619	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1701	1-104-664-11	ELECT	47µF	20%	25V
C1702	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C1703	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C1704	1-126-933-11	ELECT	100µF	20%	16V
C1705	1-162-927-11	CERAMIC CHIP	100pF	5%	50V
C1706	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1707	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1708	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1709	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1710	1-104-664-11	ELECT	47µF	20%	25V
C1711	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1712	1-104-664-11	ELECT	47µF	20%	25V
C1714	1-126-964-11	ELECT	10µF	20%	50V
C1715	1-126-960-11	ELECT	1µF	20%	50V
C1716	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
C1717	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C1718	1-104-664-11	ELECT	47µF	20%	25V
C1720	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1721	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1722	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1725	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1726	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1727	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C1728	1-126-963-11	ELECT	4.7µF	20%	50V
C1730	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1731	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1732	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1733	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1735	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1736	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1737	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1738	1-104-664-11	ELECT	47µF	20%	25V
C1741	1-126-964-11	ELECT	10µF	20%	50V
C1742	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1743	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1745	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1746	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1747	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C1748	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1749	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1750	1-126-964-11	ELECT	10µF	20%	50V
C1751	1-162-915-11	CERAMIC CHIP	10pF	0.50pF	50V
C1752	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1753	1-165-176-11	CERAMIC CHIP	0.047µF	10%	16V
C1754	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1758	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1759	1-126-935-11	ELECT	470µF	20%	6.3V
C1761	1-162-917-11	CERAMIC CHIP	15pF	5%	50V
C1762	1-104-664-11	ELECT	47µF	20%	25V
C1763	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1764	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1765	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1766	1-126-964-11	ELECT	10µF	20%	50V
C1768	1-104-664-11	ELECT	47µF	20%	25V
C1771	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1774	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C1775	1-104-664-11	ELECT	47µF	20%	25V
C1776	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C1777	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C1778	1-164-156-11	CERAMIC CHIP	0.1µF		25V
C1901	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C1902	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C1903	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C1904	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C1905	1-104-664-11	ELECT	47µF	20%	25V
C1906	1-104-664-11	ELECT	47µF	20%	25V
C1907	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C1908	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C1909	1-104-664-11	ELECT	47µF	20%	25V
C1910	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C1911	1-104-664-11	ELECT	47µF	20%	25V

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	REF.NO.	PART NO.	DESCRIPTION	VALUES		
	C1912	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C1914	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
	C1915	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
	C1916	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C1917	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C1918	1-104-664-11	ELECT	47µF	20%	25V
	C1919	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C1920	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C1921	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
	C1922	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C1924	1-104-664-11	ELECT	47µF	20%	25V
	C1925	1-104-664-11	ELECT	47µF	20%	25V
	C1926	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
	C1927	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
	C1928	1-104-664-11	ELECT	47µF	20%	25V
	C1929	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C1930	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C1931	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C1938	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
	C1939	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
	C1946	1-162-920-11	CERAMIC CHIP	27pF	5%	50V
	C1947	1-162-920-11	CERAMIC CHIP	27pF	5%	50V
	C1952	1-104-664-11	ELECT	47µF	20%	25V
	C1954	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
	C1970	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
		CONNECTOR				
*	CN001	1-564-507-11	PLUG,CONNECTOR	4P		
*	CN002	1-764-333-11	PLUG,CONNECTOR	10P		
	CN003	1-573-979-21	CONNECTOR, BOARD TO BOARD	11P		
	CN151	1-695-915-11	TAB (CONTACT)			
*	CN202	1-779-892-11	CONNECTOR, BOARD TO BOARD	10P		
*	CN203	1-564-509-11	PLUG,CONNECTOR	6P		
*	CN204	1-564-512-11	PLUG,CONNECTOR	9P		
	CN205	1-695-915-11	TAB (CONTACT)			
*	CN402	1-779-892-11	CONNECTOR, BOARD TO BOARD	10P		
*	CN403	1-564-507-11	PLUG,CONNECTOR	4P		
*	CN681	1-779-892-11	CONNECTOR, BOARD TO BOARD	10P		
*	CN801	1-779-892-11	CONNECTOR, BOARD TO BOARD	10P		
*	CN802	1-564-511-11	PLUG,CONNECTOR	8P		
	CN1702	1-764-334-11	PLUG,CONNECTOR	11P		

REF.NO.	PART NO.	DESCRIPTION	VALUES
	DIODE		
D001	8-719-988-61	DIODE 1SS355TE-17	
D002	8-719-988-61	DIODE 1SS355TE-17	
D003	8-719-988-61	DIODE 1SS355TE-17	
D004	8-719-069-55	DIODE UDZSTE-175.6B	
D005	8-719-988-61	DIODE 1SS355TE-17	
D006	8-719-069-55	DIODE UDZSTE-175.6B	
D007	8-719-069-55	DIODE UDZSTE-175.6B	
D151	8-719-083-87	DIODE UDZS-TE17-33B	
D202	8-719-977-28	DIODE UDZSTE-1710B	
D206	8-719-988-61	DIODE 1SS355TE-17	
D207	8-719-988-61	DIODE 1SS355TE-17	
D208	8-719-069-55	DIODE UDZSTE-175.6B	
D209	8-719-988-61	DIODE 1SS355TE-17	
D301	8-719-988-61	DIODE 1SS355TE-17	
D302	8-719-988-61	DIODE 1SS355TE-17	
D303	8-719-988-61	DIODE 1SS355TE-17	
D304	8-719-056-85	DIODE UDZSTE-178.2B	
D305	8-719-977-28	DIODE UDZSTE-1710B	
D306	8-719-977-28	DIODE UDZSTE-1710B	
D307	8-719-977-28	DIODE UDZSTE-1710B	
D402	8-719-988-61	DIODE 1SS355TE-17	
D403	8-719-988-61	DIODE 1SS355TE-17	
D404	8-719-988-61	DIODE 1SS355TE-17	
D405	8-719-988-61	DIODE 1SS355TE-17	
D406	8-719-083-85	DIODE UDZS-TE17-22B	
D407	8-719-988-61	DIODE 1SS355TE-17	
D408	8-719-988-61	DIODE 1SS355TE-17	
D409	8-719-920-67	DIODE ERC91-02	
D410	8-719-988-61	DIODE 1SS355TE-17	
D412	8-719-083-85	DIODE UDZS-TE17-22B	
D413	8-719-083-85	DIODE UDZS-TE17-22B	
D416	8-719-920-67	DIODE ERC91-02	
D417	8-719-083-85	DIODE UDZS-TE17-22B	
D418	8-719-083-85	DIODE UDZS-TE17-22B	
D419	8-719-083-85	DIODE UDZS-TE17-22B	
D420	8-719-988-61	DIODE 1SS355TE-17	
D421	8-719-988-61	DIODE 1SS355TE-17	
D422	8-719-083-85	DIODE UDZS-TE17-22B	
D423	8-719-083-85	DIODE UDZS-TE17-22B	
D805	8-719-069-55	DIODE UDZSTE-175.6B	
D806	8-719-069-55	DIODE UDZSTE-175.6B	
D807	8-719-069-55	DIODE UDZSTE-175.6B	

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REF.NO.	PART NO.	DESCRIPTION	VALUES
D808	8-719-069-55	DIODE UDZSTE-175.6B	
D809	8-719-988-61	DIODE 1SS355TE-17	
D810	8-719-988-61	DIODE 1SS355TE-17	
D816	8-719-988-61	DIODE 1SS355TE-17	
D817	8-719-988-61	DIODE 1SS355TE-17	
D818	8-719-988-61	DIODE 1SS355TE-17	
D819	8-719-988-61	DIODE 1SS355TE-17	
D820	8-719-988-61	DIODE 1SS355TE-17	
D821	8-719-988-61	DIODE 1SS355TE-17	
D822	8-719-988-61	DIODE 1SS355TE-17	
D823	8-719-988-61	DIODE 1SS355TE-17	
D824	8-719-988-61	DIODE 1SS355TE-17	
D1101	8-719-069-55	DIODE UDZSTE-175.6B	
D1103	8-719-977-28	DIODE UDZSTE-1710B	
D1104	8-719-977-28	DIODE UDZSTE-1710B	
D1105	8-719-977-28	DIODE UDZSTE-1710B	
D1106	8-719-988-61	DIODE 1SS355TE-17	
D1107	8-719-977-28	DIODE UDZSTE-1710B	
D1108	8-719-977-28	DIODE UDZSTE-1710B	
D1109	8-719-977-28	DIODE UDZSTE-1710B	
D1110	8-719-977-28	DIODE UDZSTE-1710B	
D1111	8-719-977-28	DIODE UDZSTE-1710B	
D1112	8-719-977-28	DIODE UDZSTE-1710B	
D1113	8-719-977-28	DIODE UDZSTE-1710B	
D1114	8-719-977-28	DIODE UDZSTE-1710B	
D1115	8-719-977-28	DIODE UDZSTE-1710B	
D1117	8-719-977-28	DIODE UDZSTE-1710B	
D1118	8-719-977-28	DIODE UDZSTE-1710B	
D1120	8-719-988-61	DIODE 1SS355TE-17	
D1121	8-719-977-28	DIODE UDZSTE-1710B	
D1122	8-719-977-28	DIODE UDZSTE-1710B	
D1124	8-719-988-61	DIODE 1SS355TE-17	
D1125	8-719-988-61	DIODE 1SS355TE-17	
D1127	8-719-977-28	DIODE UDZSTE-1710B	
D1131	8-719-977-28	DIODE UDZSTE-1710B	
D1132	8-719-977-28	DIODE UDZSTE-1710B	
D1701	8-719-988-61	DIODE 1SS355TE-17	
D1901	8-719-988-61	DIODE 1SS355TE-17	
D1902	8-719-988-61	DIODE 1SS355TE-17	
D1903	8-719-988-61	DIODE 1SS355TE-17	
D1905	8-719-988-61	DIODE 1SS355TE-17	
D1906	8-719-988-61	DIODE 1SS355TE-17	
D1907	8-719-988-61	DIODE 1SS355TE-17	

FERRITE BEAD

REF.NO.	PART NO.	DESCRIPTION	VALUES		
FB001	1-414-234-22	FERRITE	0µH		
FB151	1-414-234-22	FERRITE	0µH		
FB152	1-414-234-22	FERRITE	0µH		
FB206	1-216-017-91	RES-CHIP	47	5%	1/10W
FB209	1-216-017-91	RES-CHIP	47	5%	1/10W
FB212	1-216-295-91	SHORT			
FB215	1-216-295-91	SHORT			
FB216	1-216-295-91	SHORT			
FB217	1-216-295-91	SHORT			
FB301	1-216-295-91	SHORT			
FB801	1-414-234-22	FERRITE	0µH		
FB802	1-414-234-22	FERRITE	0µH		
FB803	1-414-234-22	FERRITE	0µH		
FB804	1-500-245-11	FERRITE	0µH		
FB805	1-500-245-11	FERRITE	0µH		
FB806	1-414-234-22	FERRITE	0µH		
FB807	1-414-234-22	FERRITE	0µH		
FB808	1-414-234-22	FERRITE	0µH		
FB809	1-500-245-11	FERRITE	0µH		
FB810	1-500-245-11	FERRITE	0µH		
FB811	1-500-245-11	FERRITE	0µH		
FB812	1-500-245-11	FERRITE	0µH		
FB1702	1-414-234-22	FERRITE	0µH		
FB1703	1-414-234-22	FERRITE	0µH		
FB1704	1-414-234-22	FERRITE	0µH		
FB1707	1-414-234-22	FERRITE	0µH		
FB1708	1-414-234-22	FERRITE	0µH		
FB1710	1-414-234-22	FERRITE	0µH		
FB1711	1-414-234-22	FERRITE	0µH		
FB1713	1-414-234-22	FERRITE	0µH		
FB1714	1-414-234-22	FERRITE	0µH		
FB1715	1-414-234-22	FERRITE	0µH		
FB1716	1-414-234-22	FERRITE	0µH		
FB1717	1-414-234-22	FERRITE	0µH		
FB1718	1-414-234-22	FERRITE	0µH		
FB1720	1-414-234-22	FERRITE	0µH		
FB1721	1-414-234-22	FERRITE	0µH		
FB1722	1-414-234-22	FERRITE	0µH		
FB1901	1-414-234-22	FERRITE	0µH		
FB2007	1-216-017-91	RES-CHIP	47	5%	1/10W

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REF.NO.	PART NO.	DESCRIPTION	VALUES
	FILTER		
FL1701	1-239-847-11	FILTER, LOW PASS	
FL1703	1-239-847-11	FILTER, LOW PASS	
FL1704	1-239-847-11	FILTER, LOW PASS	
FL1705	1-233-736-21	FILTER, EMI	
FL1706	1-233-736-21	FILTER, EMI	
	IC		
IC001	8-759-352-91	IC PST9143NL	
IC002	8-752-921-41	IC CXP750010-039Q-TL	
IC004	8-759-675-64	IC M24C08-MN6T(A)	
IC206	8-752-091-25	IC CXA2147Q	
IC403	8-759-690-57	IC BH3868BFS-E2	
IC404	8-759-100-96	IC NJM4558M-TE2	
IC406	8-759-190-89	IC TDA7265	
IC681	8-759-459-99	IC PQ09RD11	
IC682	8-759-459-99	IC PQ09RD11	
IC801	8-759-488-29	IC TC7W66FU(TE12R)	
IC802	8-759-100-96	IC NJM4558M-TE2	
IC803	8-759-589-66	IC CM0006CF	
IC804	8-759-100-96	IC NJM4558M-TE2	
IC805	8-752-921-37	IC CXP86324-030Q-TL	
IC807	8-759-546-22	IC UPD6376GS-E2	
IC808	8-759-032-11	IC TC74HC04AF(EL)	
IC809	8-759-669-75	IC TLC2932IPWR	
IC810	8-759-468-90	IC ST24E16FM6TR	
IC811	8-759-352-91	IC PST9143NL	
IC812	8-759-235-19	IC TC74HC08AF(EL)	
IC814	8-759-032-20	IC TC74HC32AF(EL)	
IC815	8-759-546-22	IC UPD6376GS-E2	
IC816	8-759-546-22	IC UPD6376GS-E2	
IC817	8-759-546-22	IC UPD6376GS-E2	
IC818	8-759-100-96	IC NJM4558M-TE2	
IC819	8-759-830-08	IC NJM2068V-TE2	
IC820	8-759-830-08	IC NJM2068V-TE2	
IC821	8-759-830-08	IC NJM2068V-TE2	
IC822	8-759-830-08	IC NJM2068V-TE2	
IC823	8-759-830-08	IC NJM2068V-TE2	
IC824	8-759-830-08	IC NJM2068V-TE2	
IC1101	8-752-081-32	IC CXA2079Q	
IC1601	8-759-638-04	IC Z8622912SSC-00TR	
IC1603	8-759-352-91	IC PST9143NL	

REF.NO.	PART NO.	DESCRIPTION	VALUES
IC1701	8-759-642-22	IC UPC29M05T-E2	
IC1702	8-759-568-27	IC UPD424210LE-60-E2	
IC1703	8-759-594-44	IC UPD64082GF-3BA	
IC1704	8-759-559-82	IC UPC29M33T-E1	
IC1901	8-752-080-75	IC CXA2039M-T6	
IC1902	8-759-830-24	IC SDA9588XB23	
IC1903	8-759-677-02	IC BU4053BCF-E2	
IC1904	8-752-058-68	IC CXA1315M-T4	
IC1905	8-759-559-82	IC UPC29M33T-E1	
	JACK		
J1101	1-794-119-11	TERMINAL BLOCK, S	4P
J1102	1-794-119-11	TERMINAL BLOCK, S	4P
J1103	1-507-667-00	JACK, MIC	
J1104	1-794-116-11	JACK BLOCK, PIN 2P	
J1106	1-794-117-11	JACK BLOCK, PIN 3P	
J1107	1-794-116-11	JACK BLOCK, PIN 2P	
	CHIP CONDUCTOR		
JR005	1-216-295-91	SHORT	
	COIL		
L001	1-414-856-11	INDUCTOR	10µH
L004	1-410-397-21	FERRITE	1.1µH
L151	1-414-187-11	INDUCTOR	47µH
L152	1-414-187-11	INDUCTOR	47µH
L153	1-414-187-11	INDUCTOR	47µH
L154	1-414-856-11	INDUCTOR	10µH
L155	1-414-187-11	INDUCTOR	47µH
L156	1-414-856-11	INDUCTOR	10µH
L211	1-414-857-11	INDUCTOR	100µH
L212	1-414-856-11	INDUCTOR	10µH
L681	1-406-975-21	INDUCTOR	47µH
L801	1-410-397-21	FERRITE	1.1µH
L802	1-410-397-21	FERRITE	1.1µH
L803	1-414-856-11	INDUCTOR	10µH
L804	1-410-397-21	FERRITE	1.1µH
L809	1-414-856-11	INDUCTOR	10µH
L816	1-414-856-11	INDUCTOR	10µH
L823	1-410-494-11	INDUCTOR	1MH
L824	1-410-494-11	INDUCTOR	1MH
L825	1-410-494-11	INDUCTOR	1MH
L826	1-410-494-11	INDUCTOR	1MH

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

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REF.NO.	PART NO.	DESCRIPTION	VALUES
L827	1-410-494-11	INDUCTOR	1MH
L828	1-410-494-11	INDUCTOR	1MH
L829	1-414-856-11	INDUCTOR	10µH
L830	1-407-495-00	INDUCTOR	1.8MH
L831	1-407-495-00	INDUCTOR	1.8MH
L832	1-407-495-00	INDUCTOR	1.8MH
L833	1-407-495-00	INDUCTOR	1.8MH
L834	1-407-495-00	INDUCTOR	1.8MH
L835	1-407-495-00	INDUCTOR	1.8MH
L843	1-414-856-11	INDUCTOR	10µH
L1701	1-469-555-21	INDUCTOR	10µH
L1705	1-469-555-21	INDUCTOR	10µH
L1706	1-469-555-21	INDUCTOR	10µH
L1709	1-469-555-21	INDUCTOR	10µH
L1723	1-469-555-21	INDUCTOR	10µH
L1901	1-469-555-21	INDUCTOR	10µH
L1902	1-469-555-21	INDUCTOR	10µH
L1903	1-469-555-21	INDUCTOR	10µH
	IC LINK		
⚠ PS401	1-532-984-11	LINK, IC 2A/90V	
⚠ PS402	1-532-984-11	LINK, IC 2A/90V	
	TRANSISTOR		
Q001	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q002	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q003	8-729-027-38	TRANSISTOR DTA144EKA-T146	
Q004	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q005	8-729-027-38	TRANSISTOR DTA144EKA-T146	
Q006	8-729-027-38	TRANSISTOR DTA144EKA-T146	
Q007	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q008	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q009	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q010	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q011	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q012	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q013	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q014	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q015	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q016	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q017	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q018	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q019	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q020	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q021	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q022	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q023	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q151	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q152	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q153	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q205	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q217	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q218	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q219	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q220	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q221	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q222	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q223	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q224	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q225	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q226	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q227	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q228	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q229	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q230	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q231	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q232	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q301	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q302	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q303	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q304	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q401	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q402	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q403	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q404	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q408	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q409	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q410	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q411	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q806	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q807	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q808	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q809	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q811	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q812	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q813	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	

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REF.NO.	PART NO.	DESCRIPTION	VALUES
Q814	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1102	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1106	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1107	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1108	8-729-027-56	TRANSISTOR DTC143TKA-T146	
Q1109	8-729-027-56	TRANSISTOR DTC143TKA-T146	
Q1111	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q1112	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q1113	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q1114	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q1115	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1117	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1118	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1119	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1121	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q1124	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q1125	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q1601	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1602	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1603	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1701	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q1702	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1703	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1704	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1705	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1706	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q1707	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1711	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1712	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1713	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1714	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q1715	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1716	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1717	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1719	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q1721	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q1722	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1901	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q1902	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q1903	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q1905	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q1906	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1907	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q1911	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q1912	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1913	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1914	8-729-026-49	TRANSISTOR 2SA1037AK-T146-QR	
Q1915	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	
Q1918	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR	

RESISTOR

R001	1-216-041-00	RES-CHIP	470	5%	1/10W
R002	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R003	1-216-049-11	RES-CHIP	1K	5%	1/10W
R004	1-216-121-11	RES-CHIP	1M	5%	1/10W
R005	1-216-097-11	RES-CHIP	100K	5%	1/10W
R006	1-216-033-00	RES-CHIP	220	5%	1/10W
R007	1-216-073-91	RES-CHIP	10K	5%	1/10W
R008	1-216-033-00	RES-CHIP	220	5%	1/10W
R009	1-216-033-00	RES-CHIP	220	5%	1/10W
R010	1-216-073-91	RES-CHIP	10K	5%	1/10W
R011	1-216-049-11	RES-CHIP	1K	5%	1/10W
R012	1-216-427-00	METAL OXIDE	120	5%	1W
R013	1-216-073-91	RES-CHIP	10K	5%	1/10W
R014	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R015	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R016	1-216-033-00	RES-CHIP	220	5%	1/10W
R018	1-216-033-00	RES-CHIP	220	5%	1/10W
R019	1-216-033-00	RES-CHIP	220	5%	1/10W
R021	1-216-033-00	RES-CHIP	220	5%	1/10W
R022	1-216-033-00	RES-CHIP	220	5%	1/10W
R023	1-216-049-11	RES-CHIP	1K	5%	1/10W
R024	1-216-025-11	RES-CHIP	100	5%	1/10W
R025	1-216-025-11	RES-CHIP	100	5%	1/10W
R026	1-216-025-11	RES-CHIP	100	5%	1/10W
R027	1-216-025-11	RES-CHIP	100	5%	1/10W
R028	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R029	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R030	1-216-033-00	RES-CHIP	220	5%	1/10W
R031	1-216-037-00	RES-CHIP	330	5%	1/10W
R032	1-216-033-00	RES-CHIP	220	5%	1/10W
R033	1-216-033-00	RES-CHIP	220	5%	1/10W
R034	1-216-033-00	RES-CHIP	220	5%	1/10W
R035	1-216-033-00	RES-CHIP	220	5%	1/10W
R037	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R040	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R041	1-216-033-00	RES-CHIP	220	5%	1/10W

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
R042	1-216-033-00	RES-CHIP	220	5%	1/10W
R043	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R044	1-216-121-11	RES-CHIP	1M	5%	1/10W
R045	1-216-097-11	RES-CHIP	100K	5%	1/10W
R046	1-216-073-91	RES-CHIP	10K	5%	1/10W
R047	1-216-073-91	RES-CHIP	10K	5%	1/10W
R048	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R049	1-216-049-11	RES-CHIP	1K	5%	1/10W
R050	1-216-049-11	RES-CHIP	1K	5%	1/10W
R051	1-216-049-11	RES-CHIP	1K	5%	1/10W
R052	1-216-049-11	RES-CHIP	1K	5%	1/10W
R053	1-216-049-11	RES-CHIP	1K	5%	1/10W
R054	1-216-033-00	RES-CHIP	220	5%	1/10W
R055	1-216-033-00	RES-CHIP	220	5%	1/10W
R056	1-216-049-11	RES-CHIP	1K	5%	1/10W
R057	1-216-049-11	RES-CHIP	1K	5%	1/10W
R058	1-216-089-91	RES-CHIP	47K	5%	1/10W
R059	1-216-089-91	RES-CHIP	47K	5%	1/10W
R060	1-216-049-11	RES-CHIP	1K	5%	1/10W
R061	1-216-041-00	RES-CHIP	470	5%	1/10W
R062	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R063	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R064	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R066	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R068	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R070	1-216-033-00	RES-CHIP	220	5%	1/10W
R071	1-216-033-00	RES-CHIP	220	5%	1/10W
R072	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R073	1-216-295-91	SHORT			
R074	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R075	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R077	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R078	1-216-025-11	RES-CHIP	100	5%	1/10W
R079	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R084	1-216-025-11	RES-CHIP	100	5%	1/10W
R085	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R086	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R087	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R088	1-216-025-11	RES-CHIP	100	5%	1/10W
R089	1-216-055-00	RES-CHIP	1.8K	5%	1/10W
R090	1-216-113-00	RES-CHIP	470K	5%	1/10W
R091	1-216-017-91	RES-CHIP	47	5%	1/10W
R092	1-216-113-00	RES-CHIP	470K	5%	1/10W
R093	1-216-017-91	RES-CHIP	47	5%	1/10W
R094	1-216-113-00	RES-CHIP	470K	5%	1/10W
R095	1-216-017-91	RES-CHIP	47	5%	1/10W
R096	1-216-055-00	RES-CHIP	1.8K	5%	1/10W
R097	1-216-055-00	RES-CHIP	1.8K	5%	1/10W
R099	1-216-041-00	RES-CHIP	470	5%	1/10W
R100	1-216-041-00	RES-CHIP	470	5%	1/10W
R101	1-216-041-00	RES-CHIP	470	5%	1/10W
R102	1-216-113-00	RES-CHIP	470K	5%	1/10W
R103	1-216-113-00	RES-CHIP	470K	5%	1/10W
R104	1-216-113-00	RES-CHIP	470K	5%	1/10W
R105	1-216-017-91	RES-CHIP	47	5%	1/10W
R106	1-216-017-91	RES-CHIP	47	5%	1/10W
R107	1-216-017-91	RES-CHIP	47	5%	1/10W
R108	1-216-113-00	RES-CHIP	470K	5%	1/10W
R109	1-216-113-00	RES-CHIP	470K	5%	1/10W
R110	1-216-043-91	RES-CHIP	560	5%	1/10W
R111	1-216-043-91	RES-CHIP	560	5%	1/10W
R112	1-216-043-91	RES-CHIP	560	5%	1/10W
R113	1-216-113-00	RES-CHIP	470K	5%	1/10W
R114	1-216-045-00	RES-CHIP	680	5%	1/10W
R115	1-216-045-00	RES-CHIP	680	5%	1/10W
R116	1-216-045-00	RES-CHIP	680	5%	1/10W
R117	1-216-295-91	SHORT			
R118	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R119	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R120	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R121	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R122	1-216-295-91	SHORT			
R123	1-216-017-91	RES-CHIP	47	5%	1/10W
R124	1-216-017-91	RES-CHIP	47	5%	1/10W
R125	1-216-017-91	RES-CHIP	47	5%	1/10W
R127	1-216-025-11	RES-CHIP	100	5%	1/10W
R129	1-216-073-91	RES-CHIP	10K	5%	1/10W
R130	1-216-049-11	RES-CHIP	1K	5%	1/10W
R132	1-216-295-91	SHORT			
R135	1-216-295-91	SHORT			
R151	1-216-025-11	RES-CHIP	100	5%	1/10W
R152	1-216-083-00	RES-CHIP	27K	5%	1/10W
R153	1-216-689-11	RES-CHIP	39K	5%	1/10W
R154	1-216-043-91	RES-CHIP	560	5%	1/10W
R155	1-216-025-11	RES-CHIP	100	5%	1/10W
R156	1-216-045-00	RES-CHIP	680	5%	1/10W
R157	1-216-049-11	RES-CHIP	1K	5%	1/10W

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
R158	1-216-464-11	METAL OXIDE	18K	5%	2W
R159	1-216-041-00	RES-CHIP	470	5%	1/10W
R160	1-216-025-11	RES-CHIP	100	5%	1/10W
R161	1-216-083-00	RES-CHIP	27K	5%	1/10W
R162	1-216-041-00	RES-CHIP	470	5%	1/10W
R163	1-216-689-11	RES-CHIP	39K	5%	1/10W
R164	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R166	1-216-025-11	RES-CHIP	100	5%	1/10W
R167	1-216-025-11	RES-CHIP	100	5%	1/10W
R168	1-216-025-11	RES-CHIP	100	5%	1/10W
R169	1-208-789-11	METAL CHIP	2K	0.50%	1/10W
R170	1-216-025-11	RES-CHIP	100	5%	1/10W
R171	1-216-295-91	SHORT			
R203	1-216-051-00	RES-CHIP	1.2K	5%	1/10W
R204	1-216-041-00	RES-CHIP	470	5%	1/10W
R207	1-216-041-00	RES-CHIP	470	5%	1/10W
R208	1-216-295-91	SHORT			
R274	1-216-073-91	RES-CHIP	10K	5%	1/10W
R275	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R276	1-216-097-11	RES-CHIP	100K	5%	1/10W
R277	1-216-089-91	RES-CHIP	47K	5%	1/10W
R278	1-216-073-91	RES-CHIP	10K	5%	1/10W
R279	1-216-129-00	RES-CHIP	2.2M	5%	1/10W
R280	1-216-073-91	RES-CHIP	10K	5%	1/10W
R281	1-216-025-11	RES-CHIP	100	5%	1/10W
R282	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R283	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R284	1-216-025-11	RES-CHIP	100	5%	1/10W
R285	1-216-049-11	RES-CHIP	1K	5%	1/10W
R286	1-216-025-11	RES-CHIP	100	5%	1/10W
R287	1-216-025-11	RES-CHIP	100	5%	1/10W
R288	1-216-295-91	SHORT			
R289	1-216-049-11	RES-CHIP	1K	5%	1/10W
R290	1-216-049-11	RES-CHIP	1K	5%	1/10W
R291	1-216-049-11	RES-CHIP	1K	5%	1/10W
R292	1-216-049-11	RES-CHIP	1K	5%	1/10W
R293	1-216-049-11	RES-CHIP	1K	5%	1/10W
R294	1-216-049-11	RES-CHIP	1K	5%	1/10W
R295	1-216-295-91	SHORT			
R296	1-216-033-00	RES-CHIP	220	5%	1/10W
R297	1-216-033-00	RES-CHIP	220	5%	1/10W
R298	1-216-033-00	RES-CHIP	220	5%	1/10W
R299	1-216-033-00	RES-CHIP	220	5%	1/10W

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R300	1-216-033-00	RES-CHIP	220	5%	1/10W
R301	1-216-033-00	RES-CHIP	220	5%	1/10W
R302	1-216-049-11	RES-CHIP	1K	5%	1/10W
R303	1-216-133-91	RES-CHIP	3.3M	5%	1/10W
R304	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R305	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R306	1-208-774-11	METAL CHIP	470	0.50%	1/10W
R307	1-208-810-11	METAL CHIP	15K	0.50%	1/10W
R308	1-216-109-00	RES-CHIP	330K	5%	1/10W
R309	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R310	1-216-033-00	RES-CHIP	220	5%	1/10W
R311	1-216-025-11	RES-CHIP	100	5%	1/10W
R312	1-216-025-11	RES-CHIP	100	5%	1/10W
R313	1-216-113-00	RES-CHIP	470K	5%	1/10W
R314	1-216-025-11	RES-CHIP	100	5%	1/10W
R315	1-216-043-91	RES-CHIP	560	5%	1/10W
R316	1-216-049-11	RES-CHIP	1K	5%	1/10W
R317	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R318	1-216-077-91	RES-CHIP	15K	5%	1/10W
R319	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W
R321	1-216-033-00	RES-CHIP	220	5%	1/10W
R322	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R323	1-216-017-91	RES-CHIP	47	5%	1/10W
R324	1-216-049-11	RES-CHIP	1K	5%	1/10W
R325	1-216-073-91	RES-CHIP	10K	5%	1/10W
R326	1-216-073-91	RES-CHIP	10K	5%	1/10W
R327	1-216-073-91	RES-CHIP	10K	5%	1/10W
R328	1-216-049-11	RES-CHIP	1K	5%	1/10W
R329	1-216-073-91	RES-CHIP	10K	5%	1/10W
R330	1-216-073-91	RES-CHIP	10K	5%	1/10W
R331	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R332	1-216-073-91	RES-CHIP	10K	5%	1/10W
R333	1-216-049-11	RES-CHIP	1K	5%	1/10W
R334	1-216-113-00	RES-CHIP	470K	5%	1/10W
R335	1-216-041-00	RES-CHIP	470	5%	1/10W
R336	1-216-048-00	RES-CHIP	910	5%	1/10W
R337	1-216-049-11	RES-CHIP	1K	5%	1/10W
R338	1-216-077-91	RES-CHIP	15K	5%	1/10W
R339	1-216-049-11	RES-CHIP	1K	5%	1/10W
R340	1-216-037-00	RES-CHIP	330	5%	1/10W
R341	1-216-041-00	RES-CHIP	470	5%	1/10W
R342	1-216-049-11	RES-CHIP	1K	5%	1/10W
R343	1-216-081-00	RES-CHIP	22K	5%	1/10W
R344	1-216-025-11	RES-CHIP	100	5%	1/10W

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
R345	1-216-049-11	RES-CHIP	1K	5%	1/10W
R346	1-216-089-91	RES-CHIP	47K	5%	1/10W
R347	1-216-073-91	RES-CHIP	10K	5%	1/10W
R348	1-216-079-00	RES-CHIP	18K	5%	1/10W
R349	1-216-077-91	RES-CHIP	15K	5%	1/10W
R350	1-216-073-91	RES-CHIP	10K	5%	1/10W
R351	1-216-041-00	RES-CHIP	470	5%	1/10W
R352	1-216-081-00	RES-CHIP	22K	5%	1/10W
R353	1-216-113-00	RES-CHIP	470K	5%	1/10W
R354	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R360	1-216-051-00	RES-CHIP	1.2K	5%	1/10W
R361	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R362	1-208-774-11	METAL CHIP	470	0.50%	1/10W
R363	1-208-798-11	METAL CHIP	4.7K	0.50%	1/10W
R411	1-216-025-11	RES-CHIP	100	5%	1/10W
R412	1-216-025-11	RES-CHIP	100	5%	1/10W
R413	1-216-025-11	RES-CHIP	100	5%	1/10W
R414	1-216-081-00	RES-CHIP	22K	5%	1/10W
R415	1-216-073-91	RES-CHIP	10K	5%	1/10W
R416	1-216-025-11	RES-CHIP	100	5%	1/10W
R418	1-216-025-11	RES-CHIP	100	5%	1/10W
R419	1-216-025-11	RES-CHIP	100	5%	1/10W
R420	1-216-025-11	RES-CHIP	100	5%	1/10W
R421	1-216-025-11	RES-CHIP	100	5%	1/10W
R422	1-216-025-11	RES-CHIP	100	5%	1/10W
R423	1-216-089-91	RES-CHIP	47K	5%	1/10W
R425	1-216-025-11	RES-CHIP	100	5%	1/10W
R426	1-216-073-91	RES-CHIP	10K	5%	1/10W
R428	1-216-073-91	RES-CHIP	10K	5%	1/10W
R429	1-216-073-91	RES-CHIP	10K	5%	1/10W
R430	1-216-041-00	RES-CHIP	470	5%	1/10W
R431	1-216-073-91	RES-CHIP	10K	5%	1/10W
R432	1-216-041-00	RES-CHIP	470	5%	1/10W
R433	1-216-041-00	RES-CHIP	470	5%	1/10W
R434	1-216-097-11	RES-CHIP	100K	5%	1/10W
R435	1-216-073-91	RES-CHIP	10K	5%	1/10W
R436	1-216-079-00	RES-CHIP	18K	5%	1/10W
R437	1-216-046-00	RES-CHIP	750	5%	1/10W
R438	1-216-073-91	RES-CHIP	10K	5%	1/10W
R440	1-216-046-00	RES-CHIP	750	5%	1/10W
R441	1-216-049-11	RES-CHIP	1K	5%	1/10W
R442	1-216-041-00	RES-CHIP	470	5%	1/10W
R443	1-216-073-91	RES-CHIP	10K	5%	1/10W

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R444	1-216-077-91	RES-CHIP	15K	5%	1/10W
R445	1-216-079-00	RES-CHIP	18K	5%	1/10W
R446	1-216-085-91	RES-CHIP	33K	5%	1/10W
R447	1-216-079-00	RES-CHIP	18K	5%	1/10W
R448	1-216-079-00	RES-CHIP	18K	5%	1/10W
R449	1-216-049-11	RES-CHIP	1K	5%	1/10W
R451	1-216-073-91	RES-CHIP	10K	5%	1/10W
R452	1-216-083-00	RES-CHIP	27K	5%	1/10W
R455	1-216-083-00	RES-CHIP	27K	5%	1/10W
R458	1-249-389-11	CARBON	4.7	5%	1/4W
R459	1-249-389-11	CARBON	4.7	5%	1/4W
R460	1-216-089-91	RES-CHIP	47K	5%	1/10W
R461	1-216-025-11	RES-CHIP	100	5%	1/10W
R462	1-216-075-00	RES-CHIP	12K	5%	1/10W
R463	1-216-089-91	RES-CHIP	47K	5%	1/10W
R464	1-216-089-91	RES-CHIP	47K	5%	1/10W
R465	1-216-121-11	RES-CHIP	1M	5%	1/10W
R466	1-216-079-00	RES-CHIP	18K	5%	1/10W
R467	1-216-077-91	RES-CHIP	15K	5%	1/10W
R468	1-216-295-91	SHORT			
R474	1-216-049-11	RES-CHIP	1K	5%	1/10W
R805	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R806	1-216-113-00	RES-CHIP	470K	5%	1/10W
R808	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R810	1-216-295-91	SHORT			
R811	1-216-109-00	RES-CHIP	330K	5%	1/10W
R813	1-216-117-00	RES-CHIP	680K	5%	1/10W
R814	1-216-117-00	RES-CHIP	680K	5%	1/10W
R815	1-216-025-11	RES-CHIP	100	5%	1/10W
R816	1-216-049-11	RES-CHIP	1K	5%	1/10W
R817	1-216-025-11	RES-CHIP	100	5%	1/10W
R818	1-216-025-11	RES-CHIP	100	5%	1/10W
R819	1-216-025-11	RES-CHIP	100	5%	1/10W
R824	1-216-025-11	RES-CHIP	100	5%	1/10W
R825	1-216-025-11	RES-CHIP	100	5%	1/10W
R828	1-216-049-11	RES-CHIP	1K	5%	1/10W
R829	1-216-073-91	RES-CHIP	10K	5%	1/10W
R831	1-216-049-11	RES-CHIP	1K	5%	1/10W
R832	1-216-073-91	RES-CHIP	10K	5%	1/10W
R833	1-216-049-11	RES-CHIP	1K	5%	1/10W
R834	1-216-049-11	RES-CHIP	1K	5%	1/10W
R836	1-216-049-11	RES-CHIP	1K	5%	1/10W
R838	1-216-025-11	RES-CHIP	100	5%	1/10W

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
R839	1-216-025-11	RES-CHIP	100	5%	1/10W
R840	1-216-025-11	RES-CHIP	100	5%	1/10W
R843	1-216-025-11	RES-CHIP	100	5%	1/10W
R844	1-216-025-11	RES-CHIP	100	5%	1/10W
R846	1-216-025-11	RES-CHIP	100	5%	1/10W
R847	1-216-033-00	RES-CHIP	220	5%	1/10W
R848	1-216-025-11	RES-CHIP	100	5%	1/10W
R852	1-216-081-00	RES-CHIP	22K	5%	1/10W
R853	1-216-025-11	RES-CHIP	100	5%	1/10W
R854	1-216-025-11	RES-CHIP	100	5%	1/10W
R855	1-216-025-11	RES-CHIP	100	5%	1/10W
R856	1-216-033-00	RES-CHIP	220	5%	1/10W
R858	1-216-073-91	RES-CHIP	10K	5%	1/10W
R859	1-216-081-00	RES-CHIP	22K	5%	1/10W
R860	1-216-025-11	RES-CHIP	100	5%	1/10W
R861	1-216-073-91	RES-CHIP	10K	5%	1/10W
R863	1-216-025-11	RES-CHIP	100	5%	1/10W
R864	1-208-801-11	METAL CHIP	6.2K	0.50%	1/10W
R865	1-216-025-11	RES-CHIP	100	5%	1/10W
R866	1-216-025-11	RES-CHIP	100	5%	1/10W
R867	1-216-025-11	RES-CHIP	100	5%	1/10W
R868	1-216-025-11	RES-CHIP	100	5%	1/10W
R869	1-216-025-11	RES-CHIP	100	5%	1/10W
R870	1-216-073-91	RES-CHIP	10K	5%	1/10W
R871	1-216-025-11	RES-CHIP	100	5%	1/10W
R872	1-216-025-11	RES-CHIP	100	5%	1/10W
R873	1-216-025-11	RES-CHIP	100	5%	1/10W
R874	1-216-025-11	RES-CHIP	100	5%	1/10W
R875	1-216-295-91	SHORT			
R876	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R877	1-208-816-11	METAL CHIP	27K	0.50%	1/10W
R878	1-216-049-11	RES-CHIP	1K	5%	1/10W
R879	1-216-295-91	SHORT			
R880	1-216-049-11	RES-CHIP	1K	5%	1/10W
R881	1-216-025-11	RES-CHIP	100	5%	1/10W
R882	1-216-033-00	RES-CHIP	220	5%	1/10W
R883	1-216-033-00	RES-CHIP	220	5%	1/10W
R884	1-216-049-11	RES-CHIP	1K	5%	1/10W
R885	1-216-025-11	RES-CHIP	100	5%	1/10W
R887	1-414-551-11	FERRITE	0µH		
R888	1-216-025-11	RES-CHIP	100	5%	1/10W
R891	1-216-073-91	RES-CHIP	10K	5%	1/10W
R892	1-208-802-11	METAL CHIP	6.8K	0.50%	1/10W
R893	1-216-073-91	RES-CHIP	10K	5%	1/10W

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R894	1-216-033-00	RES-CHIP	220	5%	1/10W
R895	1-216-025-11	RES-CHIP	100	5%	1/10W
R896	1-216-121-11	RES-CHIP	1M	5%	1/10W
R897	1-216-049-11	RES-CHIP	1K	5%	1/10W
R898	1-216-049-11	RES-CHIP	1K	5%	1/10W
R899	1-216-033-00	RES-CHIP	220	5%	1/10W
R900	1-216-025-11	RES-CHIP	100	5%	1/10W
R901	1-216-033-00	RES-CHIP	220	5%	1/10W
R902	1-216-033-00	RES-CHIP	220	5%	1/10W
R903	1-216-025-11	RES-CHIP	100	5%	1/10W
R904	1-216-033-00	RES-CHIP	220	5%	1/10W
R905	1-216-049-11	RES-CHIP	1K	5%	1/10W
R906	1-216-049-11	RES-CHIP	1K	5%	1/10W
R907	1-216-049-11	RES-CHIP	1K	5%	1/10W
R908	1-216-049-11	RES-CHIP	1K	5%	1/10W
R910	1-216-025-11	RES-CHIP	100	5%	1/10W
R911	1-216-025-11	RES-CHIP	100	5%	1/10W
R912	1-216-049-11	RES-CHIP	1K	5%	1/10W
R913	1-216-025-11	RES-CHIP	100	5%	1/10W
R914	1-216-049-11	RES-CHIP	1K	5%	1/10W
R915	1-216-049-11	RES-CHIP	1K	5%	1/10W
R916	1-216-049-11	RES-CHIP	1K	5%	1/10W
R917	1-216-025-11	RES-CHIP	100	5%	1/10W
R918	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R919	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R920	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R922	1-216-049-11	RES-CHIP	1K	5%	1/10W
R923	1-216-043-91	RES-CHIP	560	5%	1/10W
R924	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R925	1-216-043-91	RES-CHIP	560	5%	1/10W
R926	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R928	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R929	1-216-049-11	RES-CHIP	1K	5%	1/10W
R932	1-208-792-11	METAL CHIP	2.7K	0.50%	1/10W
R935	1-216-025-11	RES-CHIP	100	5%	1/10W
R936	1-216-025-11	RES-CHIP	100	5%	1/10W
R937	1-216-025-11	RES-CHIP	100	5%	1/10W
R938	1-216-635-11	METAL CHIP	220	0.50%	1/10W
R939	1-216-635-11	METAL CHIP	220	0.50%	1/10W
R941	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R942	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R943	1-216-041-00	RES-CHIP	470	5%	1/10W
R945	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R950	1-216-043-91	RES-CHIP	560	5%	1/10W

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
R951	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R952	1-216-049-11	RES-CHIP	1K	5%	1/10W
R953	1-216-025-11	RES-CHIP	100	5%	1/10W
R954	1-216-025-11	RES-CHIP	100	5%	1/10W
R955	1-216-025-11	RES-CHIP	100	5%	1/10W
R956	1-216-025-11	RES-CHIP	100	5%	1/10W
R957	1-216-025-11	RES-CHIP	100	5%	1/10W
R958	1-216-025-11	RES-CHIP	100	5%	1/10W
R959	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R960	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R961	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R962	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R963	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R964	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R965	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R966	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R968	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R970	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R972	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R974	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R976	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R978	1-208-810-11	METAL CHIP	15K	0.50%	1/10W
R979	1-208-817-11	METAL CHIP	30K	0.50%	1/10W
R980	1-208-817-11	METAL CHIP	30K	0.50%	1/10W
R981	1-208-817-11	METAL CHIP	30K	0.50%	1/10W
R982	1-208-817-11	METAL CHIP	30K	0.50%	1/10W
R983	1-208-817-11	METAL CHIP	30K	0.50%	1/10W
R985	1-208-810-11	METAL CHIP	15K	0.50%	1/10W
R987	1-208-817-11	METAL CHIP	30K	0.50%	1/10W
R989	1-208-817-11	METAL CHIP	30K	0.50%	1/10W
R991	1-208-817-11	METAL CHIP	30K	0.50%	1/10W
R993	1-208-817-11	METAL CHIP	30K	0.50%	1/10W
R994	1-208-817-11	METAL CHIP	30K	0.50%	1/10W
R996	1-208-776-11	METAL CHIP	560	0.50%	1/10W
R997	1-208-776-11	METAL CHIP	560	0.50%	1/10W
R998	1-208-776-11	METAL CHIP	560	0.50%	1/10W
R999	1-208-776-11	METAL CHIP	560	0.50%	1/10W
R1000	1-208-776-11	METAL CHIP	560	0.50%	1/10W
R1001	1-208-776-11	METAL CHIP	560	0.50%	1/10W
R1002	1-208-810-11	METAL CHIP	15K	0.50%	1/10W
R1003	1-208-818-11	METAL CHIP	33K	0.50%	1/10W
R1010	1-216-295-91	SHORT			
R1011	1-216-295-91	SHORT			
R1012	1-216-295-91	SHORT			
R1013	1-216-295-91	SHORT			
R1014	1-216-295-91	SHORT			
R1015	1-216-295-91	SHORT			
R1106	1-216-041-00	RES-CHIP	470	5%	1/10W
R1107	1-216-041-00	RES-CHIP	470	5%	1/10W
R1111	1-216-025-11	RES-CHIP	100	5%	1/10W
R1112	1-216-022-00	RES-CHIP	75	5%	1/10W
R1113	1-216-022-00	RES-CHIP	75	5%	1/10W
R1114	1-216-022-00	RES-CHIP	75	5%	1/10W
R1115	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1116	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1117	1-216-022-00	RES-CHIP	75	5%	1/10W
R1118	1-216-022-00	RES-CHIP	75	5%	1/10W
R1119	1-216-022-00	RES-CHIP	75	5%	1/10W
R1120	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1121	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1122	1-216-022-00	RES-CHIP	75	5%	1/10W
R1123	1-216-022-00	RES-CHIP	75	5%	1/10W
R1124	1-216-022-00	RES-CHIP	75	5%	1/10W
R1126	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1127	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1128	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1129	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1130	1-216-025-11	RES-CHIP	100	5%	1/10W
R1131	1-216-091-00	RES-CHIP	56K	5%	1/10W
R1132	1-216-121-11	RES-CHIP	1M	5%	1/10W
R1133	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1134	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1135	1-216-041-00	RES-CHIP	470	5%	1/10W
R1136	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1137	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1138	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1139	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1140	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1141	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1142	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1143	1-216-085-91	RES-CHIP	33K	5%	1/10W
R1144	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1145	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1146	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1147	1-216-041-00	RES-CHIP	470	5%	1/10W
R1148	1-216-041-00	RES-CHIP	470	5%	1/10W
R1149	1-216-073-91	RES-CHIP	10K	5%	1/10W

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
R1151	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1156	1-216-025-11	RES-CHIP	100	5%	1/10W
R1157	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1158	1-216-025-11	RES-CHIP	100	5%	1/10W
R1159	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1160	1-216-025-11	RES-CHIP	100	5%	1/10W
R1162	1-216-689-11	RES-CHIP	39K	5%	1/10W
R1163	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1164	1-216-093-91	RES-CHIP	68K	5%	1/10W
R1165	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1166	1-216-097-11	RES-CHIP	100K	5%	1/10W
R1167	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1168	1-216-689-11	RES-CHIP	39K	5%	1/10W
R1169	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1170	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1171	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1173	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1174	1-208-782-11	METAL CHIP	1K	0.50%	1/10W
R1175	1-208-782-11	METAL CHIP	1K	0.50%	1/10W
R1182	1-216-295-91	SHORT			
R1183	1-216-048-00	RES-CHIP	910	5%	1/10W
R1184	1-208-774-11	METAL CHIP	470	0.50%	1/10W
R1187	1-216-025-11	RES-CHIP	100	5%	1/10W
R1188	1-216-025-11	RES-CHIP	100	5%	1/10W
R1191	1-216-025-11	RES-CHIP	100	5%	1/10W
R1193	1-216-041-00	RES-CHIP	470	5%	1/10W
R1197	1-216-041-00	RES-CHIP	470	5%	1/10W
R1202	1-216-025-11	RES-CHIP	100	5%	1/10W
R1203	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1204	1-216-025-11	RES-CHIP	100	5%	1/10W
R1205	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1206	1-216-025-11	RES-CHIP	100	5%	1/10W
R1207	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1208	1-216-025-11	RES-CHIP	100	5%	1/10W
R1209	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1210	1-216-025-11	RES-CHIP	100	5%	1/10W
R1211	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1212	1-216-025-11	RES-CHIP	100	5%	1/10W
R1213	1-216-025-11	RES-CHIP	100	5%	1/10W
R1214	1-216-025-11	RES-CHIP	100	5%	1/10W
R1215	1-216-025-11	RES-CHIP	100	5%	1/10W
R1216	1-216-025-11	RES-CHIP	100	5%	1/10W
R1217	1-216-025-11	RES-CHIP	100	5%	1/10W
R1218	1-216-025-11	RES-CHIP	100	5%	1/10W
R1219	1-216-025-11	RES-CHIP	100	5%	1/10W
R1221	1-216-025-11	RES-CHIP	100	5%	1/10W
R1222	1-216-295-91	SHORT			
R1223	1-216-025-11	RES-CHIP	100	5%	1/10W
R1601	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1605	1-208-802-11	METAL CHIP	6.8K	0.50%	1/10W
R1607	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R1609	1-216-025-11	RES-CHIP	100	5%	1/10W
R1610	1-216-025-11	RES-CHIP	100	5%	1/10W
R1614	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1616	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1617	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1619	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1622	1-216-033-00	RES-CHIP	220	5%	1/10W
R1627	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R1700	1-249-377-11	CARBON	0.47	5%	1/4W
R1701	1-216-295-91	SHORT			
R1702	1-216-295-91	SHORT			
R1703	1-216-295-91	SHORT			
R1704	1-216-021-00	RES-CHIP	68	5%	1/10W
R1705	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1706	1-216-071-00	RES-CHIP	8.2K	5%	1/10W
R1707	1-208-782-11	METAL CHIP	1K	0.50%	1/10W
R1708	1-216-047-91	RES-CHIP	820	5%	1/10W
R1709	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1710	1-216-295-91	SHORT			
R1711	1-216-033-00	RES-CHIP	220	5%	1/10W
R1712	1-216-295-91	SHORT			
R1713	1-216-025-11	RES-CHIP	100	5%	1/10W
R1714	1-216-025-11	RES-CHIP	100	5%	1/10W
R1715	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1716	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1717	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1718	1-208-800-11	METAL CHIP	5.6K	0.50%	1/10W
R1719	1-208-776-11	METAL CHIP	560	0.50%	1/10W
R1720	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1721	1-216-041-00	RES-CHIP	470	5%	1/10W
R1722	1-216-025-11	RES-CHIP	100	5%	1/10W
R1724	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1731	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1732	1-208-800-11	METAL CHIP	5.6K	0.50%	1/10W
R1733	1-208-790-11	METAL CHIP	2.2K	0.50%	1/10W
R1734	1-216-085-91	RES-CHIP	33K	5%	1/10W
R1735	1-208-776-11	METAL CHIP	560	0.50%	1/10W

A

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R1736	1-216-017-91	RES-CHIP	47	5%	1/10W
R1738	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1739	1-216-045-00	RES-CHIP	680	5%	1/10W
R1740	1-216-047-91	RES-CHIP	820	5%	1/10W
R1741	1-216-075-00	RES-CHIP	12K	5%	1/10W
R1742	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1744	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W
R1745	1-216-025-11	RES-CHIP	100	5%	1/10W
R1746	1-216-025-11	RES-CHIP	100	5%	1/10W
R1747	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1748	1-208-800-11	METAL CHIP	5.6K	0.50%	1/10W
R1749	1-208-784-11	METAL CHIP	1.2K	0.50%	1/10W
R1750	1-216-085-91	RES-CHIP	33K	5%	1/10W
R1752	1-216-025-11	RES-CHIP	100	5%	1/10W
R1753	1-216-025-11	RES-CHIP	100	5%	1/10W
R1754	1-208-776-11	METAL CHIP	560	0.50%	1/10W
R1755	1-216-295-91	SHORT			
R1756	1-216-017-91	RES-CHIP	47	5%	1/10W
R1758	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1759	1-216-035-00	RES-CHIP	270	5%	1/10W
R1760	1-216-045-00	RES-CHIP	680	5%	1/10W
R1761	1-216-075-00	RES-CHIP	12K	5%	1/10W
R1762	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1764	1-216-295-91	SHORT			
R1765	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1776	1-208-774-11	METAL CHIP	470	0.50%	1/10W
R1777	1-216-025-11	RES-CHIP	100	5%	1/10W
R1778	1-208-758-11	METAL CHIP	100	0.50%	1/10W
R1779	1-208-774-11	METAL CHIP	470	0.50%	1/10W
R1901	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1902	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1903	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1904	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1905	1-216-071-00	RES-CHIP	8.2K	5%	1/10W
R1906	1-216-071-00	RES-CHIP	8.2K	5%	1/10W
R1908	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1909	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1911	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1912	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1915	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1916	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1917	1-216-017-91	RES-CHIP	47	5%	1/10W
R1918	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1919	1-216-037-00	RES-CHIP	330	5%	1/10W
R1920	1-216-043-91	RES-CHIP	560	5%	1/10W
R1921	1-216-017-91	RES-CHIP	47	5%	1/10W
R1922	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1923	1-216-041-00	RES-CHIP	470	5%	1/10W
R1924	1-216-043-91	RES-CHIP	560	5%	1/10W
R1927	1-216-025-11	RES-CHIP	100	5%	1/10W
R1928	1-216-025-11	RES-CHIP	100	5%	1/10W
R1929	1-208-801-11	METAL CHIP	6.2K	0.50%	1/10W
R1930	1-216-295-91	SHORT			
R1937	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1941	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1944	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1953	1-216-025-11	RES-CHIP	100	5%	1/10W
R1954	1-216-025-11	RES-CHIP	100	5%	1/10W
R1967	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1968	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1976	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R1977	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1979	1-216-025-11	RES-CHIP	100	5%	1/10W
R1980	1-216-025-11	RES-CHIP	100	5%	1/10W
R1981	1-216-041-00	RES-CHIP	470	5%	1/10W

RESISTOR BRIDGE

RB1700	1-233-575-11	RES, CHIP NETWORK	22
RB1701	1-233-575-11	RES, CHIP NETWORK	22
RB1702	1-233-575-11	RES, CHIP NETWORK	22
RB1703	1-233-575-11	RES, CHIP NETWORK	22
RB1704	1-233-575-11	RES, CHIP NETWORK	22
RB1705	1-233-575-11	RES, CHIP NETWORK	22

TUNER

TU151	8-598-542-50	TUNER, FSS BTF-WA412
TU152	8-598-430-50	TUNER, FSS BTF-FA401

CRYSTAL

X001	1-781-589-21	VIBRATOR, CRYSTAL	
X202	1-567-505-11	OSCILLATOR, CRYSTAL	
X203	1-579-583-11	VIBRATOR, CERAMIC	
X801	1-767-925-21	VIBRATOR, CRYSTAL	
X1903	1-760-723-21	VIBRATOR, CRYSTAL	(20.25MHZ)

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

CR

CR

REF.NO.	PART NO.	DESCRIPTION	VALUES		
	***A-1331-922-A**	**CR BOARD, MOUNTED**			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
		CAPACITOR			
C701	1-104-570-11	CERAMIC	0.001µF	10%	2KV
C703	1-104-664-11	ELECT	47µF	20%	25V
C706	1-102-114-00	CERAMIC	470pF	10%	50V
C708	1-102-113-00	CERAMIC	390pF	10%	50V
C709	1-101-880-00	CERAMIC	47pF	5%	50V
C710	1-162-115-00	CERAMIC	330pF	10%	2KV
C711	1-161-830-00	CERAMIC	.0047µF	500V	
C712	1-107-662-11	ELECT	22µF	20%	250V
		CONNECTOR			
* CN701	1-564-507-11	PLUG,CONNECTOR	4P		
* CN702	1-564-512-11	PLUG,CONNECTOR	9P		
CN703	1-785-879-11	CONNECTOR, ONE TOUCH			
⚠ CN704	1-251-182-11	SOCKET, CRT			
CN705	1-695-915-11	TAB (CONTACT)			
CN706	1-695-915-11	TAB (CONTACT)			
		DIODE			
D705	8-719-991-33	DIODE 1SS133T-77			
D706	8-719-991-33	DIODE 1SS133T-77			
D707	8-719-991-33	DIODE 1SS133T-77			
D708	8-719-991-33	DIODE 1SS133T-77			
D709	8-719-991-33	DIODE 1SS133T-77			
		COIL			
L701	1-414-188-41	INDUCTOR	68µH		
L702	1-412-911-11	FERRITE	0µH		
		NEON LAMP			
NL701	1-517-778-21	LAMP, NEON			

REF.NO.	PART NO.	DESCRIPTION	VALUES		
		TRANSISTOR			
Q704	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA			
Q705	8-729-326-11	TRANSISTOR 2SC3271F-N			
Q706	8-729-200-17	TRANSISTOR 2SA1091O-TPE2			
		RESISTOR			
R701	1-219-743-11	CARBON	100	5%	1/2W
R702	1-260-132-11	CARBON	560K	5%	1/2W
R703	1-216-486-00	METAL OXIDE	8.2K	5%	3W
R704	1-215-476-00	METAL	200K	1%	1/4W
R711	1-247-807-31	CARBON	100	5%	1/4W
R712	1-249-404-00	CARBON	82	5%	1/4W
R713	1-216-486-00	METAL OXIDE	8.2K	5%	3W
R714	1-249-393-11	CARBON	10	5%	1/4W
R715	1-249-419-11	CARBON	1.5K	5%	1/4W
R718	1-260-133-11	CARBON	680K	5%	1/2W
R719	1-249-425-11	CARBON	4.7K	5%	1/4W
R720	1-260-328-11	CARBON	1K	5%	1/2W
R721	1-260-328-11	CARBON	1K	5%	1/2W
R722	1-260-087-11	CARBON	100	5%	1/2W
R723	1-412-911-11	FERRITE	0µH		
		SPARK GAP			
SG701	1-519-422-11	GAP, SPARK			
SG702	1-517-729-31	GAP, SPARK			

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

CG

CG

REF.NO.	PART NO.	DESCRIPTION	VALUES		
	***A-1331-923-A**	**CG BOARD, MOUNTED**			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
	CAPACITOR				
C731	1-104-664-11	ELECT	47µF	20%	25V
C732	1-104-570-11	CERAMIC	0.001µF	10%	2KV
C733	1-102-114-00	CERAMIC	470pF	10%	50V
C734	1-102-114-00	CERAMIC	470pF	10%	50V
C735	1-101-880-00	CERAMIC	47pF	5%	50V
C736	1-161-830-00	CERAMIC	.0047µF	500V	
C737	1-162-115-00	CERAMIC	330pF	10%	2KV
C738	1-107-662-11	ELECT	22µF	20%	250V
C1301	1-104-987-11	MYLAR	0.001µF	10%	200V
C1302	1-107-639-11	ELECT	47µF	20%	160V
C1303	1-126-933-11	ELECT	100µF	20%	16V
C1305	1-126-933-11	ELECT	100µF	20%	16V
C1308	1-106-383-00	MYLAR	0.047µF	10%	200V
C1309	1-106-383-00	MYLAR	0.047µF	10%	200V
C1310	1-126-960-11	ELECT	1µF	20%	50V
C1312	1-161-830-00	CERAMIC	.0047µF	500V	
C1313	1-102-129-00	CERAMIC	0.01µF	10%	50V
C1314	1-102-129-00	CERAMIC	0.01µF	10%	50V
C1315	1-126-933-11	ELECT	100µF	20%	16V
	CONNECTOR				
* CN731	1-564-512-11	PLUG,CONNECTOR	9P		
* CN732	1-564-507-11	PLUG,CONNECTOR	4P		
* CN733	1-564-508-11	PLUG,CONNECTOR	5P		
* CN734	1-764-333-11	PLUG,CONNECTOR	10P		
* CN735	1-564-512-11	PLUG,CONNECTOR	9P		
* CN736	1-564-512-11	PLUG,CONNECTOR	9P		
CN737	1-785-879-11	CONNECTOR, ONE	TOUCH		
CN738	1-695-915-11	TAB (CONTACT)			
CN739	1-695-915-11	TAB (CONTACT)			
⚠ CN740	1-251-182-11	SOCKET, CRT			
* CN1301	1-564-506-11	PLUG,CONNECTOR	3P		
* CN1302	1-564-506-11	PLUG,CONNECTOR	3P		
* CN1303	1-564-506-11	PLUG,CONNECTOR	3P		
* CN1304	1-564-509-11	PLUG,CONNECTOR	6P		

REF.NO.	PART NO.	DESCRIPTION	VALUES		
	DIODE				
D731	8-719-991-33	DIODE 1SS133T-77			
D732	8-719-991-33	DIODE 1SS133T-77			
D733	8-719-991-33	DIODE 1SS133T-77			
D734	8-719-991-33	DIODE 1SS133T-77			
D735	8-719-991-33	DIODE 1SS133T-77			
D736	8-719-109-85	DIODE MTZJ-T-77-5.1B			
D1304	8-719-991-33	DIODE 1SS133T-77			
	COIL				
L731	1-414-188-41	INDUCTOR	68µH		
L732	1-412-911-11	FERRITE	0µH		
L1301	1-412-911-11	FERRITE	0µH		
L1302	1-412-911-11	FERRITE	0µH		
	NEON LAMP				
NL731	1-517-778-21	LAMP, NEON			
	TRANSISTOR				
Q731	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA			
Q732	8-729-326-11	TRANSISTOR 2SC3271F-N			
Q733	8-729-200-17	TRANSISTOR 2SA1091O-TPE2			
Q734	8-729-119-76	TRANSISTOR 2SA1309A-QRSTA			
Q1301	8-729-017-06	TRANSISTOR 2SC4793			
Q1302	8-729-017-05	TRANSISTOR 2SA1837			
Q1303	8-729-119-76	TRANSISTOR 2SA1309A-QRSTA			
Q1304	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA			
Q1305	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA			
Q1306	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA			
	RESISTOR				
R731	1-219-743-11	CARBON	100	5%	1/2W
R732	1-260-132-11	CARBON	560K	5%	1/2W
R733	1-247-807-31	CARBON	100	5%	1/4W
R734	1-260-087-11	CARBON	100	5%	1/2W
R735	1-249-403-11	CARBON	68	5%	1/4W
R736	1-216-486-00	METAL OXIDE	8.2K	5%	3W
R737	1-249-393-11	CARBON	10	5%	1/4W
R738	1-249-414-11	CARBON	560	5%	1/4W
R739	1-216-486-00	METAL OXIDE	8.2K	5%	3W
R741	1-249-425-11	CARBON	4.7K	5%	1/4W
R742	1-260-328-11	CARBON	1K	5%	1/2W
R743	1-247-881-00	CARBON	120K	5%	1/4W

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

CG CB

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R744	1-260-133-11	CARBON	680K	5%	1/2W
R745	1-260-328-11	CARBON	1K	5%	1/2W
R746	1-249-437-11	CARBON	47K	5%	1/4W
R747	1-249-438-11	CARBON	56K	5%	1/4W
R753	1-412-911-11	FERRITE	0µH		
R1301	1-215-916-00	METAL OXIDE	680	5%	3W
R1302	1-215-916-00	METAL OXIDE	680	5%	3W
R1303	1-249-400-11	CARBON	39	5%	1/4W
R1304	1-249-391-11	CARBON	6.8	5%	1/4W
R1305	1-249-391-11	CARBON	6.8	5%	1/4W
R1306	1-249-429-11	CARBON	10K	5%	1/4W
R1307	1-260-311-11	CARBON	39	5%	1/2W
R1308	1-249-419-11	CARBON	1.5K	5%	1/4W
R1310	1-249-441-11	CARBON	100K	5%	1/4W
R1311	1-249-419-11	CARBON	1.5K	5%	1/4W
R1314	1-249-419-11	CARBON	1.5K	5%	1/4W
R1315	1-249-399-11	CARBON	33	5%	1/4W
R1319	1-249-413-11	CARBON	470	5%	1/4W
R1321	1-249-406-11	CARBON	120	5%	1/4W
R1323	1-249-377-11	CARBON	0.47	5%	1/4W
R1324	1-249-425-11	CARBON	4.7K	5%	1/4W
R1325	1-249-431-11	CARBON	15K	5%	1/4W
R1327	1-249-441-11	CARBON	100K	5%	1/4W
R1328	1-249-435-11	CARBON	33K	5%	1/4W
	SPARK GAP				
SG731	1-519-422-11	GAP, SPARK			
SG732	1-517-729-31	GAP, SPARK			

CB

REF.NO.	PART NO.	DESCRIPTION	VALUES		
	***A-1331-924-A**	**CB BOARD, MOUNTED**			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
	CAPACITOR				
C761	1-104-664-11	ELECT	47µF	20%	25V
C762	1-104-570-11	CERAMIC	0.001µF	10%	2KV
C763	1-102-114-00	CERAMIC	470pF	10%	50V
C764	1-102-112-00	CERAMIC	330pF	10%	50V
C765	1-101-880-00	CERAMIC	47pF	5%	50V
C767	1-162-115-00	CERAMIC	330pF	10%	2KV
C768	1-126-964-11	ELECT	10µF	20%	50V
C769	1-161-830-00	CERAMIC	.0047µF		500V
C770	1-107-662-11	ELECT	22µF	20%	250V
	CONNECTOR				
* CN761	1-564-508-11	PLUG,CONNECTOR	5P		
* CN762	1-564-512-11	PLUG,CONNECTOR	9P		
CN763	1-785-879-11	CONNECTOR, ONE TOUCH			
CN764	1-695-915-11	TAB (CONTACT)			
CN765	1-695-915-11	TAB (CONTACT)			
⚠ CN766	1-251-182-11	SOCKET, CRT			
	DIODE				
D761	8-719-991-33	DIODE 1SS133T-77			
D762	8-719-991-33	DIODE 1SS133T-77			
D763	8-719-991-33	DIODE 1SS133T-77			
D764	8-719-991-33	DIODE 1SS133T-77			
D765	8-719-991-33	DIODE 1SS133T-77			
	COIL				
L761	1-414-188-41	INDUCTOR	68µH		
L762	1-412-911-11	FERRITE	0µH		
	NEON LAMP				
NL761	1-517-778-21	LAMP, NEON			
	TRANSISTOR				
Q761	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA			
Q762	8-729-326-11	TRANSISTOR 2SC3271F-N			
Q763	8-729-119-76	TRANSISTOR 2SA1309A-QRSTA			

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

A component identified by this ⋈ symbol indicates that it has been carefully factory-selected to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

CBG

REF.NO.	PART NO.	DESCRIPTION	VALUES		
Q764	8-729-200-17	TRANSISTOR 2SA1091O-TPE2			
	RESISTOR				
R761	1-219-743-11	CARBON	100	5%	1/2W
R762	1-260-132-11	CARBON	560K	5%	1/2W
R763	1-247-807-31	CARBON	100	5%	1/4W
R764	1-216-486-00	METAL OXIDE	8.2K	5%	3W
R765	1-247-807-31	CARBON	100	5%	1/4W
R766	1-216-486-00	METAL OXIDE	8.2K	5%	3W
R767	1-249-393-11	CARBON	10	5%	1/4W
R768	1-249-418-11	CARBON	1.2K	5%	1/4W
R770	1-249-404-00	CARBON	82	5%	1/4W
R771	1-249-426-11	CARBON	5.6K	5%	1/4W
R772	1-249-435-11	CARBON	33K	5%	1/4W
R773	1-260-328-11	CARBON	1K	5%	1/2W
R775	1-249-425-11	CARBON	4.7K	5%	1/4W
R776	1-260-133-11	CARBON	680K	5%	1/2W
R777	1-260-328-11	CARBON	1K	5%	1/2W
R778	1-259-880-11	CARBON	2.2M	5%	1/4W
R779	1-260-087-11	CARBON	100	5%	1/2W
R783	1-412-911-11	FERRITE	0µH		
	SPARK GAP				
SG761	1-519-422-11	GAP, SPARK			
SG762	1-517-729-31	GAP, SPARK			

REF.NO.	PART NO.	DESCRIPTION	VALUES		

G

*** A-1316-475-A G BOARD, COMPLETE (KP-43T90)**
*** A-1316-498-A G BOARD, COMPLETE (KP-48V90/61V90)**
*** A-1316-499-A G BOARD, COMPLETE (KP-53V90)**

The high voltage leads associated with the FBT on the G board are not included and must be ordered separately. Order the following leads when requesting the G Board:

	1-779-095-23	LEAD ASSY, HIGH VOLTAGE
	1-900-249-96	FOCUS LEAD ASSY
	4-083-259-01	SHIELD, TRANSFORMER
	4-382-854-11	SCREW (M3X10), P, SW (+)

	CAPACITOR					
	C501	1-126-959-11	ELECT	0.47µF	20%	50V
	C502	1-102-002-00	CERAMIC	680pF	10%	500V
	C505	1-106-383-00	MYLAR	0.047µF	10%	200V
	C506	1-102-212-00	CERAMIC	820pF	10%	500V
	C508	1-102-002-00	CERAMIC	680pF	10%	500V
	C510	1-130-471-00	MYLAR	0.001µF	5%	50V
	C513	1-126-933-11	ELECT	100µF	20%	16V
	C514	1-130-495-00	MYLAR	0.1µF	5%	50V
	C515	1-126-960-11	ELECT	1µF	20%	50V
	C516	1-126-965-91	ELECT	22µF	20%	50V
⚠⋈	C517	1-161-754-00	CERAMIC	0.001µF	10%	2KV
	C518	1-130-487-00	MYLAR	0.022µF	5%	50V
⚠	C521	1-128-660-91	FILM	0.039µF	3%	630V
⚠	C522	1-117-658-11	FILM	14000pF	3%	1.2KV
	C525	1-136-479-11	FILM	0.001µF	5%	50V
	C526	1-130-475-00	MYLAR	0.0022µF	5%	50V
	C527	1-129-702-00	FILM	0.001µF	5%	630V
	C529	1-130-495-00	MYLAR	0.1µF	5%	50V
	C531	1-117-673-11	FILM	1.5µF	5%	250V
	C533	1-106-359-00	MYLAR	.0047µF	5%	100V
	C534	1-162-116-00	CERAMIC	680pF	10%	2KV
	C535	1-162-116-00	CERAMIC	680pF	10%	2KV
	C536	1-126-965-91	ELECT	22µF	20%	50V
	C537	1-102-244-00	CERAMIC	220pF	10%	500V
	C538	1-106-359-00	MYLAR	.0047µF	5%	100V
	C540	1-107-645-11	ELECT	22µF	20%	160V
	C542	1-102-228-00	CERAMIC	470pF	10%	500V
	C543	1-117-813-11	FILM	0.75µF	5%	250V
	C544	1-110-626-11	ELECT	330µF	20%	160V
	C545	1-162-114-00	CERAMIC	.0047µF	2KV	

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
C548	1-104-665-11	ELECT	100µF	20%	25V
C549	1-130-489-00	MYLAR	0.033µF	5%	50V
C550	1-104-665-11	ELECT	100µF	20%	25V
C551	1-126-971-11	ELECT	470µF	20%	50V
C552	1-130-489-00	MYLAR	0.033µF	5%	50V
C553	1-126-935-11	ELECT	470µF	20%	16V
C554	1-126-935-11	ELECT	470µF	20%	16V
C555	1-104-665-11	ELECT	100µF	20%	25V
C556	1-104-665-11	ELECT	100µF	20%	25V
C557	1-128-562-11	ELECT	47µF	20%	100V
C563	1-104-664-11	ELECT	47µF	20%	25V
C564	1-102-129-00	CERAMIC	0.01µF	10%	50V
C565	1-102-129-00	CERAMIC	0.01µF	10%	50V
C566	1-104-666-11	ELECT	220µF	20%	25V
C567	1-106-387-00	MYLAR	0.068µF	5%	200V
⚠ C601	1-136-311-11	MYLAR	0.47µF	20%	125V
C602	1-129-722-00	FILM	0.047µF	5%	630V
C603	1-113-920-11	CERAMIC	0.0022µF	20%	250V
⚠ C604	1-113-920-11	CERAMIC	0.0022µF	20%	250V
⚠ C606	1-113-920-11	CERAMIC	0.0022µF	20%	250V
⚠ C607	1-136-311-11	MYLAR	0.47µF	20%	125V
C608	1-107-670-11	ELECT	10µF	20%	400V
C609	1-130-467-00	MYLAR	470pF	5%	50V
C610	1-130-471-00	MYLAR	0.001µF	5%	50V
C611	1-104-350-11	ELECT(BLOCK)	1000µF	20%	250V
C612	1-104-350-11	ELECT(BLOCK)	1000µF	20%	250V
C613	1-136-165-00	FILM	0.1µF	5%	50V
C614	1-130-467-00	MYLAR	470pF	5%	50V
C615	1-104-331-11	CERAMIC	0.0022µF	10%	1KV
C616	1-130-471-00	MYLAR	0.001µF	5%	50V
C617	1-137-605-11	MYLAR	0.01µF	10%	250V
C618	1-126-965-91	ELECT	22µF	20%	50V
C619	1-104-660-91	ELECT	47µF	20%	16V
C620	1-136-175-00	FILM	0.68µF	5%	50V
C621	1-136-175-00	FILM	0.68µF	5%	50V
C622	1-136-171-00	FILM	0.33µF	5%	50V
C623	1-136-171-00	FILM	0.33µF	5%	50V
C624	1-104-330-91	CERAMIC	470pF	10%	1KV
C625	1-104-660-91	ELECT	47µF	20%	16V
C626	1-104-660-91	ELECT	47µF	20%	16V
C651	1-164-644-11	CERAMIC	330pF	10%	500V
C654	1-126-953-11	ELECT	2200µF	20%	35V
C655	1-126-953-11	ELECT	2200µF	20%	35V
C656	1-102-121-00	CERAMIC	0.0022µF	10%	50V

REF.NO.	PART NO.	DESCRIPTION	VALUES		
C657	1-126-768-11	ELECT	2200µF	20%	16V
C658	1-126-943-11	ELECT	2200µF	20%	25V
C659	1-126-943-11	ELECT	2200µF	20%	25V
C662	1-123-024-21	ELECT	33µF		160V
C663	1-104-665-11	ELECT	100µF	20%	25V
C664	1-107-910-11	ELECT	100µF	20%	35V
C665	1-126-934-11	ELECT	220µF	20%	10V
C666	1-126-927-11	ELECT	2200µF	20%	10V
C667	1-104-664-11	ELECT	47µF	20%	25V
C668	1-104-664-11	ELECT	47µF	20%	25V
C669	1-104-664-11	ELECT	47µF	20%	25V
C670	1-106-359-00	MYLAR	.0047µF	5%	100V
C672	1-104-664-11	ELECT	47µF	20%	25V
C673	1-126-960-11	ELECT	1µF	20%	50V
C674	1-104-664-11	ELECT	47µF	20%	25V
C676	1-126-940-11	ELECT	330µF	20%	25V
C678	1-104-665-11	ELECT	100µF	20%	25V
C679	1-104-664-11	ELECT	47µF	20%	25V
C680	1-128-551-11	ELECT	22µF	20%	25V
C1501	1-130-495-00	MYLAR	0.1µF	5%	50V
C1502	1-126-941-11	ELECT	470µF	20%	25V
C1504	1-102-106-00	CERAMIC	100pF	10%	50V
C1505	1-104-664-11	ELECT	47µF	20%	25V
C1506	1-102-106-00	CERAMIC	100pF	10%	50V
C1507	1-126-942-61	ELECT	1000µF	20%	25V
C1508	1-102-121-00	CERAMIC	0.0022µF	10%	50V
C1510	1-126-941-11	ELECT	470µF	20%	25V
C1511	1-126-964-11	ELECT	10µF	20%	50V
C1512	1-126-933-11	ELECT	100µF	20%	16V
C1513	1-126-964-11	ELECT	10µF	20%	50V
C1516	1-104-665-11	ELECT	100µF	20%	25V
C1517	1-130-471-00	MYLAR	0.001µF	5%	50V
C1518	1-102-125-00	CERAMIC	.0047µF	10%	50V
C1519	1-102-106-00	CERAMIC	100pF	10%	50V
C1520	1-126-933-11	ELECT	100µF	20%	16V
C1521	1-126-941-11	ELECT	470µF	20%	25V
C1522	1-126-941-11	ELECT	470µF	20%	25V
C1523	1-126-964-11	ELECT	10µF	20%	50V
C1524	1-102-106-00	CERAMIC	100pF	10%	50V
C1525	1-102-852-91	CERAMIC	47pF	5%	50V
C1526	1-136-177-00	FILM	1µF	5%	50V
C1527	1-102-125-00	CERAMIC	.0047µF	10%	50V
C1528	1-126-941-11	ELECT	470µF	20%	25V
C1530	1-102-106-00	CERAMIC	100pF	10%	50V

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
C1531	1-102-106-00	CERAMIC	100pF	10%	50V
C1533	1-126-941-11	ELECT	470µF	20%	25V
C1534	1-102-125-00	CERAMIC	.0047µF	10%	50V
C1536	1-102-106-00	CERAMIC	100pF	10%	50V
C1537	1-102-125-00	CERAMIC	.0047µF	10%	50V
C1538	1-126-941-11	ELECT	470µF	20%	25V
C1539	1-104-665-11	ELECT	100µF	20%	25V
C1540	1-126-941-11	ELECT	470µF	20%	25V
C1541	1-102-125-00	CERAMIC	.0047µF	10%	50V
C1542	1-102-125-00	CERAMIC	.0047µF	10%	50V
C1543	1-102-129-00	CERAMIC	0.01µF	10%	50V
C1544	1-102-129-00	CERAMIC	0.01µF	10%	50V
C1545	1-126-933-11	ELECT	100µF	20%	16V
C1546	1-102-125-00	CERAMIC	.0047µF	10%	50V
C1547	1-130-487-00	MYLAR	0.022µF	5%	50V
C1548	1-136-177-00	FILM	1µF	5%	50V
C1549	1-130-471-00	MYLAR	0.001µF	5%	50V
C1550	1-104-665-11	ELECT	100µF	20%	25V
C1551	1-102-121-00	CERAMIC	0.0022µF	10%	50V
C1552	1-106-220-00	MYLAR	0.1µF	5%	100V
C1555	1-104-665-11	ELECT	100µF	20%	25V
C1556	1-104-665-11	ELECT	100µF	20%	25V
C1557	1-126-969-11	ELECT	220µF	20%	50V
C1559	1-137-401-11	MYLAR	0.22µF	5%	100V
C1560	1-126-942-61	ELECT	1000µF	20%	25V
C1561	1-102-121-00	CERAMIC	0.0022µF	10%	50V
C1562	1-102-125-00	CERAMIC	.0047µF	10%	50V
C1563	1-137-150-11	MYLAR	0.01µF	5%	50V
C1566	1-137-150-11	MYLAR	0.01µF	5%	50V
C1570	1-130-471-00	MYLAR	0.001µF	5%	50V
C1571	1-102-074-00	CERAMIC	0.001µF	10%	50V
C1572	1-102-074-00	CERAMIC	0.001µF	10%	50V

CONNECTOR

* CN501	1-779-890-11	CONNECTOR, BOARD TO BOARD	10P		
* CN502	1-506-371-00	PIN,CONNECTOR	2P		
* CN503	1-764-333-11	PLUG,CONNECTOR	10P		
* CN504	1-580-689-11	PIN,CONNECTOR	(PC BOARD)		4P
* CN505	1-580-689-11	PIN,CONNECTOR	(PC BOARD)		4P
* CN506	1-580-689-11	PIN,CONNECTOR	(PC BOARD)		4P
* CN507	1-691-134-11	PIN,CONNECTOR	(PC BOARD)		2P
CN508	1-695-915-11	TAB (CONTACT)			
CN601	1-580-843-11	PIN,CONNECTOR (POWER)			

REF.NO.	PART NO.	DESCRIPTION	VALUES
* CN605	1-779-890-11	CONNECTOR, BOARD TO BOARD	10P
* CN651	1-779-890-11	CONNECTOR, BOARD TO BOARD	10P
* CN652	1-573-963-11	PIN,CONNECTOR (PC BOARD)	3P
CN653	1-695-915-11	TAB (CONTACT)	
* CN1501	1-564-507-11	PLUG,CONNECTOR	4P
* CN1502	1-779-890-11	CONNECTOR, BOARD TO BOARD	10P
* CN1503	1-564-507-11	PLUG,CONNECTOR	4P
* CN1504	1-564-507-11	PLUG,CONNECTOR	4P
* CN1505	1-564-507-11	PLUG,CONNECTOR	4P
* CN1506	1-564-506-11	PLUG,CONNECTOR	3P
* CN1507	1-564-506-11	PLUG,CONNECTOR	3P
* CN1508	1-564-506-11	PLUG,CONNECTOR	3P

DIODE

D501	8-719-109-85	DIODE MTZJ-T-77-5.1B	
D505	8-719-110-41	DIODE MTZJ-T-77-15B	
D506	8-719-921-63	DIODE MTZJ-T-77-7.5B	
D507	8-719-991-33	DIODE 1SS133T-77	
D513	8-719-991-33	DIODE 1SS133T-77	
D517	8-719-979-85	DIODE RGP15J-6040G23	
D518	8-719-945-80	DIODE ERC06-15S	
D520	8-719-302-43	DIODE RGP10GPKG23	
⚠ D522	8-719-302-43	DIODE EL1Z-V1	
D525	8-719-031-34	DIODE RGP02-20EG23	
D526	8-719-031-34	DIODE RGP02-20EG23	
D528	8-719-908-03	DIODE GP08DPKG23	
D529	8-719-302-43	DIODE RGP10GPKG23	
D530	8-719-991-33	DIODE 1SS133T-77	
D531	8-719-991-33	DIODE 1SS133T-77	
D532	8-719-908-03	DIODE GP08DPKG23	
D533	8-719-302-43	DIODE RGP10GPKG23	
D534	8-719-302-43	DIODE RGP10GPKG23	
D601	8-719-068-00	DIODE ERC04-06SE	
D602	8-719-068-00	DIODE ERC04-06SE	
⚠ D603	8-719-510-53	DIODE D4SB60L-F	
D604	8-719-110-41	DIODE MTZJ-T-77-15B	
D605	8-719-110-49	DIODE MTZJ-T-77-18B	
D607	8-719-991-33	DIODE 1SS133T-77	
D609	8-719-948-45	DIODE ERA22-08TP3	
D610	8-719-510-48	DIODE D1N20R-TA	
D650	8-719-028-45	DIODE D2L20U-F	
D651	8-719-063-70	DIODE D1NL20U-TA	
D652	8-719-028-45	DIODE D2L20U-TA	
D653	8-719-028-45	DIODE D2L20U-TA	

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REF.NO.	PART NO.	DESCRIPTION	VALUES
D654	8-719-057-96	DIODE D10SC6M-4012	
D655	8-719-052-91	DIODE D4SBS4-F	
D656	8-719-028-45	DIODE D2L20U-TA	
D657	8-719-028-45	DIODE D2L20U-TA	
D658	8-719-063-70	DIODE D1NL20U-TA	
D659	8-719-063-70	DIODE D1NL20U-TA	
D660	8-719-028-45	DIODE D2L20U-F	
D661	8-719-991-33	DIODE 1SS133T-77	
D662	8-719-991-33	DIODE 1SS133T-77	
D663	8-719-991-33	DIODE 1SS133T-77	
D664	8-719-981-94	DIODE MTZJ-T-77-2.7A	
D665	8-719-991-33	DIODE 1SS133T-77	
D666	8-719-991-33	DIODE 1SS133T-77	
D667	8-719-032-12	DIODE D1NS6-TR	
D668	8-719-110-61	DIODE MTZJ-T-77-24A	
D669	8-719-921-86	DIODE MTZJ-T-77-13	
D670	8-719-027-22	DIODE D3S6M-F	
D671	8-719-027-22	DIODE D3S6M-F	
D672	8-719-200-82	DIODE 11ES2-TA2B	
D673	8-719-991-33	DIODE 1SS133T-77	
D674	8-719-991-33	DIODE 1SS133T-77	
D675	8-719-110-17	DIODE MTZJ-T-77-10B	
D676	8-719-109-72	DIODE MTZJ-T-77-3.9B	
D677	8-719-991-33	DIODE 1SS133T-77	
D680	8-719-991-33	DIODE 1SS133T-77	
D1501	8-719-109-89	DIODE MTZJ-T-77-5.6B	
D1503	8-719-921-40	DIODE MTZJ-T-77-4.7B	
D1504	8-719-110-08	DIODE MTZJ-T-77-8.2B	
D1505	8-719-110-41	DIODE MTZJ-T-77-15B	
D1506	8-719-110-41	DIODE MTZJ-T-77-15B	
D1507	8-719-110-41	DIODE MTZJ-T-77-15B	
D1509	8-719-110-41	DIODE MTZJ-T-77-15B	
D1510	8-719-110-41	DIODE MTZJ-T-77-15B	
D1513	8-719-110-41	DIODE MTZJ-T-77-15B	
D1515	8-719-110-41	DIODE MTZJ-T-77-15B	
D1520	8-719-109-93	DIODE MTZJ-T-77-6.2B	
D1521	8-719-109-93	DIODE MTZJ-T-77-6.2B	
D1522	8-719-924-16	DIODE MTZJ-T-77-24	
D1523	8-719-924-16	DIODE MTZJ-T-77-24	
D1525	8-719-908-03	DIODE GP08DPKG23	
D1526	8-719-110-41	DIODE MTZJ-T-77-15B	
D1527	8-719-110-41	DIODE MTZJ-T-77-15B	
D1528	8-719-110-41	DIODE MTZJ-T-77-15B	
D1529	8-719-110-41	DIODE MTZJ-T-77-15B	

REF.NO.	PART NO.	DESCRIPTION	VALUES
		FUSE	
⚠ F601	1-576-193-11	FUSE	6.3A/125V
⚠ F651	1-576-360-21	FUSE, MULTIPLE	
⚠ F652	1-576-360-21	FUSE, MULTIPLE	
		FERRITE BEAD	
FB651	1-410-396-41	FERRITE	0.45µH
FB654	1-410-396-41	FERRITE	0.45µH
FB655	1-410-396-41	FERRITE	0.45µH
FB656	1-410-396-41	FERRITE	0.45µH
FB657	1-410-396-41	INDUCTOR	0.45µH
		FUSE CLIP	
FH601	1-533-223-11	CLIP, FUSE	
FH602	1-533-223-11	CLIP, FUSE	
		IC	
IC502	8-759-133-90	IC UPC339C	
⚠ IC601	8-729-045-39	TRANSISTOR MX0842AB-F	
IC651	8-759-103-93	IC UPC393C	
IC652	8-759-701-84	IC NJM7905FA	
IC653	8-759-701-75	IC NJM7805FA	
⚠ IC654	8-749-012-13	IC DM-58	
IC655	8-759-450-47	IC BA05T	
IC1501	8-752-068-36	IC CXA1726AS	
IC1502	8-749-014-37	IC STK392-150	
IC1504	8-759-634-51	IC NJM4558D	
IC1505	8-759-634-51	IC NJM4558D	
IC1506	8-749-014-37	IC STK392-150	
IC1507	8-759-634-51	IC NJM4558D	
IC1509	8-759-593-33	IC LA78045	
		COIL	
L501	1-412-533-21	INDUCTOR	47µH
L502	1-414-187-11	INDUCTOR	47µH
L503	1-459-104-00	COIL, DUST CORE	
⚠ L504	1-419-082-11	COIL, HORIZONTAL LINEARITY	
L505	1-412-552-11	INDUCTOR	2.2MH
⚠ L601	1-433-900-11	TRANSFORMER, LINE FILTER	
L651	1-419-589-21	INDUCTOR	10µH
L652	1-419-589-21	INDUCTOR	10µH
L653	1-406-975-21	INDUCTOR	47µH

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REF.NO.	PART NO.	DESCRIPTION	VALUES
L654	1-410-396-41	FERRITE	0.45µH
L655	1-410-396-41	FERRITE	0.45µH
L656	1-412-525-31	INDUCTOR	10µH
L657	1-412-525-31	INDUCTOR	10µH
L658	1-412-525-31	INDUCTOR	10µH
L659	1-412-521-31	INDUCTOR	4.7µH
L660	1-412-521-31	INDUCTOR	4.7µH
L1501	1-412-533-21	INDUCTOR	47µH
L1502	1-412-533-21	INDUCTOR	47µH
L1509	1-412-533-21	INDUCTOR	47µH
L1510	1-412-533-21	INDUCTOR	47µH
L1511	1-412-533-21	INDUCTOR	47µH
L1512	1-412-533-21	INDUCTOR	47µH
L1513	1-412-525-31	INDUCTOR	10µH
L1514	1-412-911-11	FERRITE	0µH
L1515	1-412-911-11	FERRITE	0µH

NEON LAMP

NL501	1-517-778-21	LAMP, NEON
NL502	1-517-778-21	LAMP, NEON
NL503	1-517-778-21	LAMP, NEON
NL504	1-517-778-21	LAMP, NEON
NL505	1-517-778-21	LAMP, NEON

IC LINK

⚠ PS501	1-533-593-31	LINK, IC
⚠ PS1501	1-533-593-31	LINK, IC
⚠ PS1502	1-533-593-31	LINK, IC
⚠ PS1503	1-533-593-31	LINK, IC
⚠ PS1504	1-533-593-31	LINK, IC
⚠ PS1505	1-533-593-31	LINK, IC
⚠ PS1506	1-533-593-31	LINK, IC

TRANSISTOR

Q501	8-729-048-47	TRANSISTOR 2SC2688(5)-LK
Q502	8-729-048-46	TRANSISTOR 2SD2578-RF
Q503	8-729-931-45	TRANSISTOR IRF614
Q505	8-729-046-80	TRANSISTOR 2SC4634LS-CB11
Q506	8-729-119-76	TRANSISTOR 2SA1309A-QRSTA
Q507	8-729-046-80	TRANSISTOR 2SC4634LS-CB11
Q601	8-729-046-40	TRANSISTOR 2SK2663
Q602	8-729-922-39	TRANSISTOR 2SD2144S-TP-V
Q651	8-729-119-76	TRANSISTOR 2SA1309A-QRSTA
Q652	8-729-922-39	TRANSISTOR 2SD2144S-TP-V
Q653	8-729-119-76	TRANSISTOR 2SA1309A-QRSTA
Q654	8-729-119-76	TRANSISTOR 2SA1309A-QRSTA
Q655	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA
Q656	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA
Q657	8-729-119-76	TRANSISTOR 2SA1309A-QRSTA
Q658	8-729-119-76	TRANSISTOR 2SA1309A-RTA
Q1501	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA
Q1502	8-729-119-76	TRANSISTOR 2SA1309A-QRSTA
Q1503	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA
Q1505	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA
Q1506	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA
Q1508	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA
Q1509	8-729-119-76	TRANSISTOR 2SA1309A-QRSTA
Q1511	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA

RESISTOR

R501	1-247-843-11	CARBON	3.3K	5%	1/4W
R502	1-249-419-11	CARBON	1.5K	5%	1/4W
R503	1-260-336-11	CARBON	4.7K	5%	1/2W
R504	1-260-087-11	CARBON	100	5%	1/2W
R505	1-260-087-11	CARBON	100	5%	1/2W
R506	1-216-482-11	METAL OXIDE	1.8K	5%	3W
R507	1-216-482-11	METAL OXIDE	1.8K	5%	3W
R508	1-216-482-11	METAL OXIDE	1.8K	5%	3W
R509	1-260-337-11	CARBON	5.6K	5%	1/2W
R510	1-249-421-11	CARBON	2.2K	5%	1/4W
R511	1-215-879-11	METAL OXIDE	47K	5%	1W
R512	1-249-422-11	CARBON	2.7K	5%	1/4W
R513	1-249-422-11	CARBON	2.7K	5%	1/4W
R514	1-249-422-11	CARBON	2.7K	5%	1/4W
R515	1-260-131-11	CARBON	470K	5%	1/2W
R517	1-247-891-00	CARBON	330K	5%	1/4W
R519	1-215-445-00	METAL	10K	1%	1/4W
R520	1-260-304-51	CARBON	10	5%	1/2W
R522	1-215-399-00	METAL	120	1%	1/4W
R523	1-247-895-91	CARBON	470K	5%	1/4W
R524	1-249-433-11	CARBON	22K	5%	1/4W
R525	1-249-428-11	CARBON	8.2K	5%	1/4W
R526	1-249-437-11	CARBON	47K	5%	1/4W
R527	1-249-428-11	CARBON	8.2K	5%	1/4W
R528	1-249-437-11	CARBON	47K	5%	1/4W
R529	1-249-439-11	CARBON	68K	5%	1/4W
R530	1-249-428-11	CARBON	8.2K	5%	1/4W

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

A component identified by this ⋈ symbol indicates that it has been carefully factory-selected to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

G

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R531	1-249-429-11	CARBON	10K	5%	1/4W
R532	1-249-430-11	CARBON	12K	5%	1/4W
R535	1-247-887-00	CARBON	220K	5%	1/4W
⚠⋈R536	1-215-467-00	METAL	82K	1%	1/4W
R537	1-249-433-11	CARBON	22K	5%	1/4W
R538	1-215-443-00	METAL	8.2K	1%	1/4W
R542	1-249-424-11	CARBON	3.9K	5%	1/4W
R543	1-260-135-11	CARBON	1M	5%	1/2W
R544	1-249-405-11	CARBON	100	5%	1/4W
⚠⋈R545		METAL			1/4W
R546	1-215-456-00	METAL	30K	1%	1/4W
R548	1-215-449-00	METAL	15K	1%	1/4W
R550	1-215-910-00	METAL OXIDE	68	5%	3W
R551	1-215-910-00	METAL OXIDE	68	5%	3W
R556	1-249-437-11	CARBON	47K	5%	1/4W
R563	1-247-887-00	CARBON	220K	5%	1/4W
R566	1-215-868-00	METAL OXIDE	680	5%	1W
R567	1-249-437-11	CARBON	47K	5%	1/4W
R568	1-249-405-11	CARBON	100	5%	1/4W
R569	1-260-314-11	CARBON	68	5%	1/2W
R570	1-247-807-31	CARBON	100	5%	1/4W
R571	1-215-917-11	METAL OXIDE	1K	5%	3W
R572	1-216-490-11	METAL OXIDE	39K	5%	3W
R573	1-214-912-00	METAL	91K	1%	1/2W
R574	1-216-490-11	METAL OXIDE	39K	5%	3W
R575	1-249-433-11	CARBON	22K	5%	1/4W
R576	1-247-881-00	CARBON	120K	5%	1/4W
R577	1-214-923-00	METAL	270K	1%	1/2W
R578	1-216-490-11	METAL OXIDE	39K	5%	3W
R579	1-216-490-11	METAL OXIDE	39K	5%	3W
R580	1-249-413-11	CARBON	470	5%	1/4W
R581	1-247-807-31	CARBON	100	5%	1/4W
R582	1-260-292-11	CARBON	1	5%	1/2W
R583	1-260-117-11	CARBON	33K	5%	1/2W
R584	1-249-377-11	CARBON	0.47	5%	1/4W
R586	1-215-862-11	METAL OXIDE	68	5%	1W
			(KP-48V90/ 61V90 only)		
R586	1-215-863-11	METAL OXIDE	100	5%	1W
			(KP- 43T90 only)		
R586	1-215-864-00	METAL OXIDE	150	5%	1W
			(KP- 53T90 only)		
R587	1-216-349-00	METAL OXIDE	1	5%	1W
R588	1-215-862-11	METAL OXIDE	68	5%	1W
			(KP-48V90/ 61V90 only)		

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R588	1-215-863-11	METAL OXIDE	100	5%	1W
			(KP- 43T90 only)		
R588	1-215-864-00	METAL OXIDE	150	5%	1W
			(KP- 53T90 only)		
R589	1-247-807-31	CARBON	100	5%	1/4W
R590	1-260-127-11	CARBON	220K	5%	1/2W
R591	1-216-391-11	METAL OXIDE	1.5	5%	3W
R592	1-249-433-11	CARBON	22K	5%	1/4W
R593	1-249-429-11	CARBON	10K	5%	1/4W
R594	1-249-377-11	CARBON	0.47	5%	1/4W
R595	1-249-377-11	CARBON	0.47	5%	1/4W
R596	1-249-377-11	CARBON	0.47	5%	1/4W
R597	1-260-288-11	CARBON	0.47	5%	1/2W
R598	1-249-377-11	CARBON	0.47	5%	1/4W
R599	1-249-429-11	CARBON	10K	5%	1/4W
R600	1-249-433-11	CARBON	22K	5%	1/4W
⚠ R601	1-219-776-11	CARBON	2.2M	10%	1/2W
⚠ R602	1-219-759-11	CARBON	1M	5%	1/2W
⚠ R603	1-240-881-11	CMT-RES	0.82	5%	20W
R604	1-260-298-51	CARBON	3.3	5%	1/2W
R605	1-249-415-11	CARBON	680	5%	1/4W
⚠ R606	1-240-881-11	CMT-RES	0.82	5%	20W
R607	1-249-389-11	CARBON	4.7	5%	1/4W
R608	1-247-791-91	CARBON	22	5%	1/4W
R609	1-240-205-91	CARBON	22M	5%	1/2W
R610	1-260-127-11	CARBON	220K	5%	1/2W
R611	1-260-127-11	CARBON	220K	5%	1/2W
⚠ R612	1-202-933-61	FUSIBLE	0.1	10%	1/2W
R613	1-249-413-11	CARBON	470	5%	1/4W
R615	1-249-437-11	CARBON	47K	5%	1/4W
R616	1-249-421-11	CARBON	2.2K	5%	1/4W
R617	1-216-349-00	METAL OXIDE	1	5%	1W
R618	1-260-127-11	CARBON	220K	5%	1/2W
R619	1-216-349-00	METAL OXIDE	1	5%	1W
R620	1-215-493-00	METAL	1M	1%	1/4W
R621	1-260-127-11	CARBON	220K	5%	1/2W
R622	1-249-441-11	CARBON	100K	5%	1/4W
R623	1-260-127-11	CARBON	220K	5%	1/2W
R624	1-260-127-11	CARBON	220K	5%	1/2W
R652	1-249-377-11	CARBON	0.47	5%	1/4W
R654	1-216-365-00	METAL OXIDE	0.47	5%	2W
R655	1-260-288-11	CARBON	0.47	5%	1/2W
R656	1-249-377-11	CARBON	0.47	5%	1/4W
R657	1-215-421-00	METAL	1K	1%	1/4W

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REF.NO.	PART NO.	DESCRIPTION	VALUES		
R658	1-249-429-11	CARBON	10K	5%	1/4W
R659	1-215-446-00	METAL	11K	1%	1/4W
R660	1-215-439-00	METAL	5.6K	1%	1/4W
R661	1-215-481-00	METAL	330K	1%	1/4W
R662	1-215-445-00	METAL	10K	1%	1/4W
R663	1-215-445-00	METAL	10K	1%	1/4W
R664	1-249-425-11	CARBON	4.7K	5%	1/4W
R665	1-249-425-11	CARBON	4.7K	5%	1/4W
R666	1-247-887-00	CARBON	220K	5%	1/4W
R667	1-249-425-11	CARBON	4.7K	5%	1/4W
R668	1-249-429-11	CARBON	10K	5%	1/4W
R669	1-247-807-31	CARBON	100	5%	1/4W
R671	1-249-429-11	CARBON	10K	5%	1/4W
R672	1-249-417-11	CARBON	1K	5%	1/4W
R673	1-249-425-11	CARBON	4.7K	5%	1/4W
R675	1-249-429-11	CARBON	10K	5%	1/4W
R676	1-249-417-11	CARBON	1K	5%	1/4W
R677	1-249-417-11	CARBON	1K	5%	1/4W
R678	1-249-425-11	CARBON	4.7K	5%	1/4W
R679	1-247-807-31	CARBON	100	5%	1/4W
R680	1-249-429-11	CARBON	10K	5%	1/4W
R681	1-249-429-11	CARBON	10K	5%	1/4W
R682	1-249-417-11	CARBON	1K	5%	1/4W
R683	1-249-417-11	CARBON	1K	5%	1/4W
R684	1-249-425-11	CARBON	4.7K	5%	1/4W
R685	1-249-417-11	CARBON	1K	5%	1/4W
R686	1-215-445-00	METAL	10K	1%	1/4W
R687	1-215-429-00	METAL	2.2K	1%	1/4W
R688	1-215-429-00	METAL	2.2K	1%	1/4W
R689	1-249-417-11	CARBON	1K	5%	1/4W
R690	1-215-437-00	METAL	4.7K	1%	1/4W
R691	1-249-417-11	CARBON	1K	5%	1/4W
R1501	1-214-800-11	METAL	2.2	1%	1/2W
R1502	1-214-800-11	METAL	2.2	1%	1/2W
R1503	1-215-421-00	METAL	1K	1%	1/4W
R1504	1-215-433-00	METAL	3.3K	1%	1/4W
R1505	1-249-409-11	CARBON	220	5%	1/4W
R1506	1-249-409-11	CARBON	220	5%	1/4W
R1507	1-215-433-00	METAL	3.3K	1%	1/4W
R1508	1-215-421-00	METAL	1K	1%	1/4W
R1509	1-214-800-11	METAL	2.2	1%	1/2W
R1510	1-214-800-11	METAL	2.2	1%	1/2W
R1511	1-214-800-11	METAL	2.2	1%	1/2W

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R1512	1-214-800-11	METAL	2.2	1%	1/2W
R1513	1-215-421-00	METAL	1K	1%	1/4W
R1514	1-215-433-00	METAL	3.3K	1%	1/4W
R1515	1-249-409-11	CARBON	220	5%	1/4W
R1516	1-249-429-11	CARBON	10K	5%	1/4W
R1517	1-247-887-00	CARBON	220K	5%	1/4W
R1518	1-249-429-11	CARBON	10K	5%	1/4W
R1519	1-249-437-11	CARBON	47K	5%	1/4W
R1520	1-247-881-00	CARBON	120K	5%	1/4W
R1521	1-215-474-00	METAL	160K	1%	1/4W
R1522	1-214-800-11	METAL	2.2	1%	1/2W
R1523	1-214-800-11	METAL	2.2	1%	1/2W
R1524	1-215-421-00	METAL	1K	1%	1/4W
R1525	1-215-433-00	METAL	3.3K	1%	1/4W
R1526	1-249-409-11	CARBON	220	5%	1/4W
R1527	1-249-409-11	CARBON	220	5%	1/4W
R1528	1-215-433-00	METAL	3.3K	1%	1/4W
R1529	1-215-421-00	METAL	1K	1%	1/4W
R1530	1-214-800-11	METAL	2.2	1%	1/2W
R1531	1-214-800-11	METAL	2.2	1%	1/2W
R1532	1-214-800-11	METAL	2.2	1%	1/2W
R1533	1-249-441-11	CARBON	100K	5%	1/4W
R1534	1-214-800-11	METAL	2.2	1%	1/2W
R1535	1-215-421-00	METAL	1K	1%	1/4W
R1536	1-215-433-00	METAL	3.3K	1%	1/4W
R1537	1-249-409-11	CARBON	220	5%	1/4W
R1538	1-249-429-11	CARBON	10K	5%	1/4W
R1539	1-249-428-11	CARBON	8.2K	5%	1/4W
R1540	1-249-417-11	CARBON	1K	5%	1/4W
R1541	1-247-843-11	CARBON	3.3K	5%	1/4W
R1542	1-249-429-11	CARBON	10K	5%	1/4W
R1543	1-249-429-11	CARBON	10K	5%	1/4W
R1544	1-249-419-11	CARBON	1.5K	5%	1/4W
R1548	1-249-438-11	CARBON	56K	5%	1/4W
R1549	1-214-800-11	METAL	2.2	1%	1/2W
R1550	1-215-447-00	METAL	12K	1%	1/4W
R1551	1-249-428-11	CARBON	8.2K	5%	1/4W
R1552	1-214-800-11	METAL	2.2	1%	1/2W
R1554	1-215-449-00	METAL	15K	1%	1/4W
R1555	1-247-807-31	CARBON	100	5%	1/4W
R1556	1-249-433-11	CARBON	22K	5%	1/4W
R1557	1-249-429-11	CARBON	10K	5%	1/4W
R1558	1-249-429-11	CARBON	10K	5%	1/4W
R1559	1-215-857-71	METAL OXIDE	10	5%	1W

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

G

REF.NO.	PART NO.	DESCRIPTION	VALUES		
R1560	1-216-452-11	METAL OXIDE	180	5%	2W
R1561	1-249-429-11	CARBON	10K	5%	1/4W
R1562	1-249-429-11	CARBON	10K	5%	1/4W
R1563	1-249-429-11	CARBON	10K	5%	1/4W
R1564	1-215-445-00	METAL	10K	1%	1/4W
R1565	1-249-429-11	CARBON	10K	5%	1/4W
R1566	1-249-427-11	CARBON	6.8K	5%	1/4W
R1567	1-249-433-11	CARBON	22K	5%	1/4W
R1568	1-249-429-11	CARBON	10K	5%	1/4W
R1570	1-249-383-11	CARBON	1.5	5%	1/4W
R1576	1-249-429-11	CARBON	10K	5%	1/4W
R1577	1-215-447-00	METAL	12K	1%	1/4W
R1578	1-249-429-11	CARBON	10K	5%	1/4W
R1579	1-215-421-00	METAL	1K	1%	1/4W
R1580	1-215-421-00	METAL	1K	1%	1/4W
R1581	1-215-474-00	METAL	160K	1%	1/4W
R1582	1-249-421-11	CARBON	2.2K	5%	1/4W
R1583	1-247-807-31	CARBON	100	5%	1/4W
R1584	1-249-433-11	CARBON	22K	5%	1/4W
R1585	1-215-449-00	METAL	15K	1%	1/4W
R1586	1-249-441-11	CARBON	100K	5%	1/4W
R1587	1-249-414-11	CARBON	560	5%	1/4W
R1588	1-249-414-11	CARBON	560	5%	1/4W
R1589	1-249-414-11	CARBON	560	5%	1/4W
R1590	1-249-414-11	CARBON	560	5%	1/4W
R1591	1-249-414-11	CARBON	560	5%	1/4W
R1592	1-249-414-11	CARBON	560	5%	1/4W
R1593	1-216-475-11	METAL OXIDE	120	5%	3W
R1594	1-216-475-11	METAL OXIDE	120	5%	3W
R1595	1-216-475-11	METAL OXIDE	120	5%	3W
R1596	1-216-475-11	METAL OXIDE	120	5%	3W
R1597	1-216-475-11	METAL OXIDE	120	5%	3W
R1598	1-216-475-11	METAL OXIDE	120	5%	3W
R1599	1-249-429-11	CARBON	10K	5%	1/4W
R1600	1-247-807-31	CARBON	100	5%	1/4W
R1601	1-249-437-11	CARBON	47K	5%	1/4W
R1602	1-247-807-31	CARBON	100	5%	1/4W
R1603	1-249-418-11	CARBON	1.2K	5%	1/4W
R1604	1-249-429-11	CARBON	10K	5%	1/4W
R1609	1-215-445-00	METAL	10K	1%	1/4W
R1610	1-247-807-31	CARBON	100	5%	1/4W
R1611	1-247-807-31	CARBON	100	5%	1/4W
R1612	1-249-429-11	CARBON	10K	5%	1/4W
R1613	1-249-429-11	CARBON	10K	5%	1/4W
R1615	1-215-445-00	METAL	10K	1%	1/4W

RELAY

⚠	RY601	1-755-266-11	RELAY, AC POWER		

SPARK GAP

	SG501	1-519-466-11	GAP, SPARK		
	SG502	1-519-466-11	GAP, SPARK		

TRANSFORMER

⚠	T501	1-433-836-11	TRANSFORMER, HORIZONTAL	DRIVE	
⚠	T502	1-433-876-11	TRANSFORMER, FERRITE	(PMT)	
⚠	T504	1-453-238-31	FBT ASSY, NX-4007//X4P4		
⚠	T601	1-433-871-11	TRANSFORMER, CONVERTER	(PIT)	
⚠	T602	1-433-844-11	TRANSFORMER, CONVERTER		
⚠	T603	1-429-992-21	TRANSFORMER, CONVERTER	(PRT)	

THERMISTOR

	TH1501	1-807-925-11	THERMISTOR		

VARISTOR

⚠	VDR601	1-801-073-31	VARISTOR TNR14V471K660		

HC S HA

HC

REF.NO.	PART NO.	DESCRIPTION	VALUES		
	*** A-1372-618-A**	**HC BOARD, MOUNTED**			
		CAPACITOR			
	C1291	1-126-791-11	ELECT	10µF	20% 16V
		CONNECTOR			
*	CN1291	1-564-518-11	PLUG,CONNECTOR	3P	
		DIODE			
	D1291	8-719-066-43	DIODE GP1U28Y		
	D1292	8-719-109-89	DIODE MTZJ-T-77-5.6		
	D1293	8-719-109-89	DIODE MTZJ-T-77-5.6		
		RESISTOR			
	R1291	1-247-807-31	CARBON	100	5% 1/4W

S

	*** A-1390-933-A**	**S BOARD, MOUNTED**			
		CONNECTOR			
*	CN3001	1-564-506-11	PLUG,CONNECTOR	3P	
		DIODE			
	D3001	8-719-109-89	DIODE MTZJ-T-77-5.6		
		SWITCH			
	S3001	1-528-911-21	BATTERY, SOLAR		

HA

REF.NO.	PART NO.	DESCRIPTION	VALUES		
	***A-1372-619-A**	**HA BOARD, MOUNTED**			
		CONNECTOR			
*	CN1202	1-564-517-11	PLUG,CONNECTOR	2P	
*	CN1203	1-564-522-11	PLUG,CONNECTOR	7P	
		DIODE			
	D1201	8-719-053-43	DIODE SLR-325VCT31		
		RESISTOR			
	R1201	1-249-431-11	CARBON	15K	5% 1/4W
	R1202	1-249-425-11	CARBON	4.7K	5% 1/4W
	R1203	1-249-417-11	CARBON	1K	5% 1/4W
	R1204	1-249-419-11	CARBON	1.5K	5% 1/4W
	R1205	1-249-421-11	CARBON	2.2K	5% 1/4W
	R1206	1-249-409-11	CARBON	220	5% 1/4W
		SWITCH			
	S1201	1-572-198-11	SWITCH KEYBOARD		
	S1202	1-572-198-11	SWITCH KEYBOARD		
	S1203	1-572-198-11	SWITCH KEYBOARD		
	S1204	1-572-198-11	SWITCH KEYBOARD		
	S1205	1-572-198-11	SWITCH KEYBOARD		
	S1206	1-572-198-11	SWITCH KEYBOARD		
	S1207	1-572-198-11	SWITCH KEYBOARD		

HB

HB

REF.NO.	PART NO.	DESCRIPTION	VALUES		
	***A-1372-620-A**	**HB BOARD, MOUNTED**			
		CAPACITOR			
	C1251	1-128-551-11	ELECT	22µF	20% 25V
	C1252	1-128-551-11	ELECT	22µF	20% 25V
	C1253	1-128-551-11	ELECT	22µF	20% 25V
	C1254	1-128-551-11	ELECT	22µF	20% 25V
	C1255	1-128-551-11	ELECT	22µF	20% 25V
		CONNECTOR			
*	CN1252	1-564-517-11	PLUG,CONNECTOR	2P	
*	CN1253	1-564-526-11	PLUG,CONNECTOR	11P	
		DIODE			
	D1251	8-719-110-17	DIODE MTZJ-T-77-10		
	D1252	8-719-110-17	DIODE MTZJ-T-77-10		
	D1253	8-719-110-17	DIODE MTZJ-T-77-10		
	D1254	8-719-110-17	DIODE MTZJ-T-77-10		
	D1255	8-719-110-17	DIODE MTZJ-T-77-10		
	D1256	8-719-110-17	DIODE MTZJ-T-77-10		
		JACK			
	J1251	1-770-361-11	TERMINAL BLOCK, S		
		RESISTOR			
	R1251	1-249-429-11	CARBON	10K	5% 1/4W
	R1252	1-249-424-11	CARBON	3.9K	5% 1/4W
	R1253	1-249-421-11	CARBON	2.2K	5% 1/4W
	R1254	1-249-418-11	CARBON	1.2K	5% 1/4W
	R1255	1-249-425-11	CARBON	4.7K	5% 1/4W
	R1256	1-247-804-11	CARBON	75	5% 1/4W
	R1257	1-247-895-91	CARBON	470K	5% 1/4W
	R1258	1-247-895-91	CARBON	470K	5% 1/4W
	R1259	1-247-804-11	CARBON	75	5% 1/4W
	R1260	1-247-804-11	CARBON	75	5% 1/4W

REF.NO.	PART NO.	DESCRIPTION	VALUES
	SWITCH		
S1251	1-572-198-11	SWITCH KEYBOARD	
S1252	1-572-198-11	SWITCH KEYBOARD	
S1253	1-572-198-11	SWITCH KEYBOARD	
S1254	1-572-198-11	SWITCH KEYBOARD	
S1255	1-572-198-11	SWITCH KEYBOARD	

ACCESSORIES AND PACKING MATERIALS

*	4-041-425-01	BAG, PROTECTION	(KP-48V90)
*	4-041-426-01	BAG,PROTECTION	(KP-53V9)
*	4-049-155-01	BAG, PROTECTION	(KP-43T90)
*	4-076-420-01	BAG, PROTECTION	(KP-61V90)
*	4-069-526-03	CUSHION, LOWER ASSY (KP-48V90)	
*	4-069-586-03	CUSHION, LOWER ASSY (KP-61V90)	
*	4-080-861-01	CUSHION, LOWER ASSY (KP-53V90)	
*	4-080-867-01	CUSHION, LOWER ASSY (KP-43T90)	
*	4-069-525-02	CUSHION, UPPER ASSY (KP-48V90)	
*	4-069-585-02	CUSHION, UPPER ASSY (KP-61V90)	
*	4-080-860-01	CUSHION, UPPER ASSY (KP-53V90)	
*	4-080-866-01	CUSHION, UPPER ASSY (KP-43T90)	
*	4-069-531-02	INDIVIDUALCARTON (KP-48V90)	
*	4-069-573-02	INDIVIDUAL CARTON (KP-53V90)	
*	4-069-582-03	INDIVIDUAL CARTON (KP-61V90)	
*	4-081-590-01	INDIVIDUAL CARTON (KP-43T90)	
*	4-041-423-01	SHEET,PROTECTION (KP-43T90, KP-48V90)	
*	4-042-463-01	SHEET, PROTECTION (KP-53V90, KP-61V90)	
*	4-069-532-01	PLATE, BOTTOM 4X20 (KP-48V90)	
*	4-069-533-02	TRAY (KP-48V90)	
*	4-069-575-02	TRAY (KP-53V90)	
*	4-069-584-01	TRAY (KP-61V90)	
*	4-081-591-01	TRAY (KP-43T90)	
	4-082-881-11	MANUAL, INSTRUCTION (FOR US)	
	4-082-881-21	MANUAL, INSTRUCTION (FOR CANADA)	
	4-082-881-31	MANUAL, INSTRUCTION (FOR MEXICO)	
	1-418-469-11	REMOTE COMMANDER (RM-Y906)	
	4-978-977-01	REMOTE BATTERY COVER FOR RM-Y906	

Sony Corporation
Sony Technology Center
Technical Services
Service Promotion Department

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2001DJ74108-1
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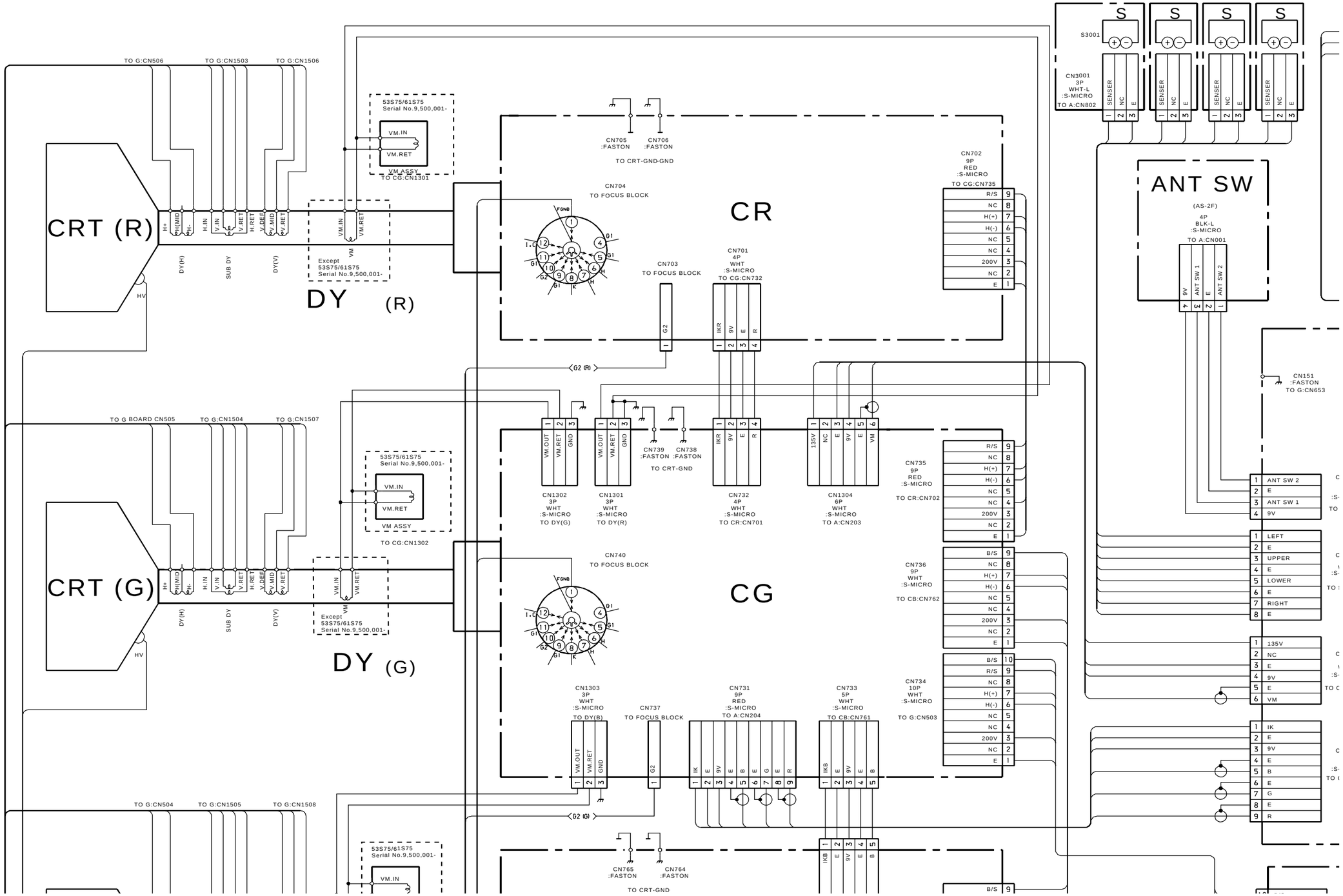
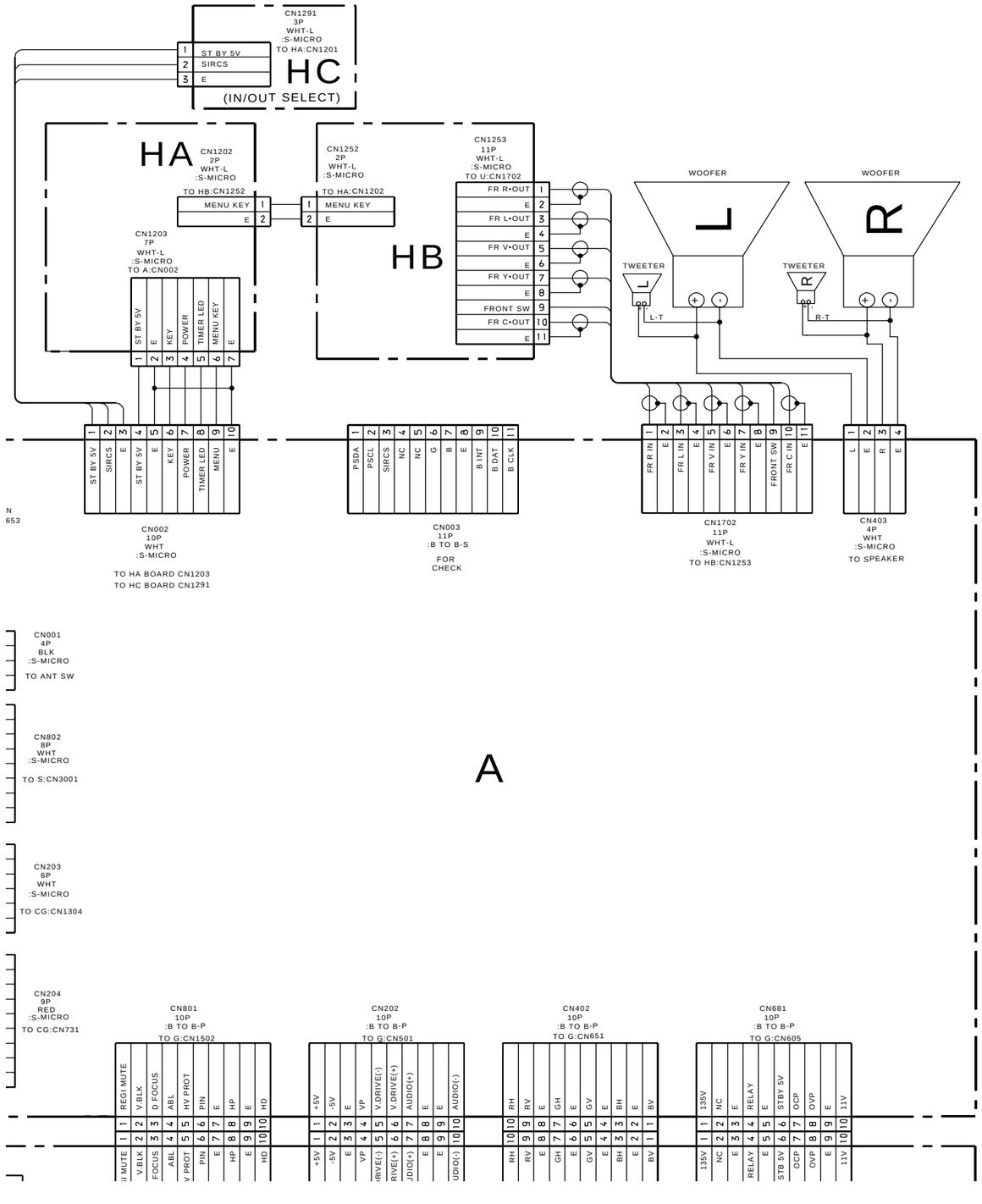
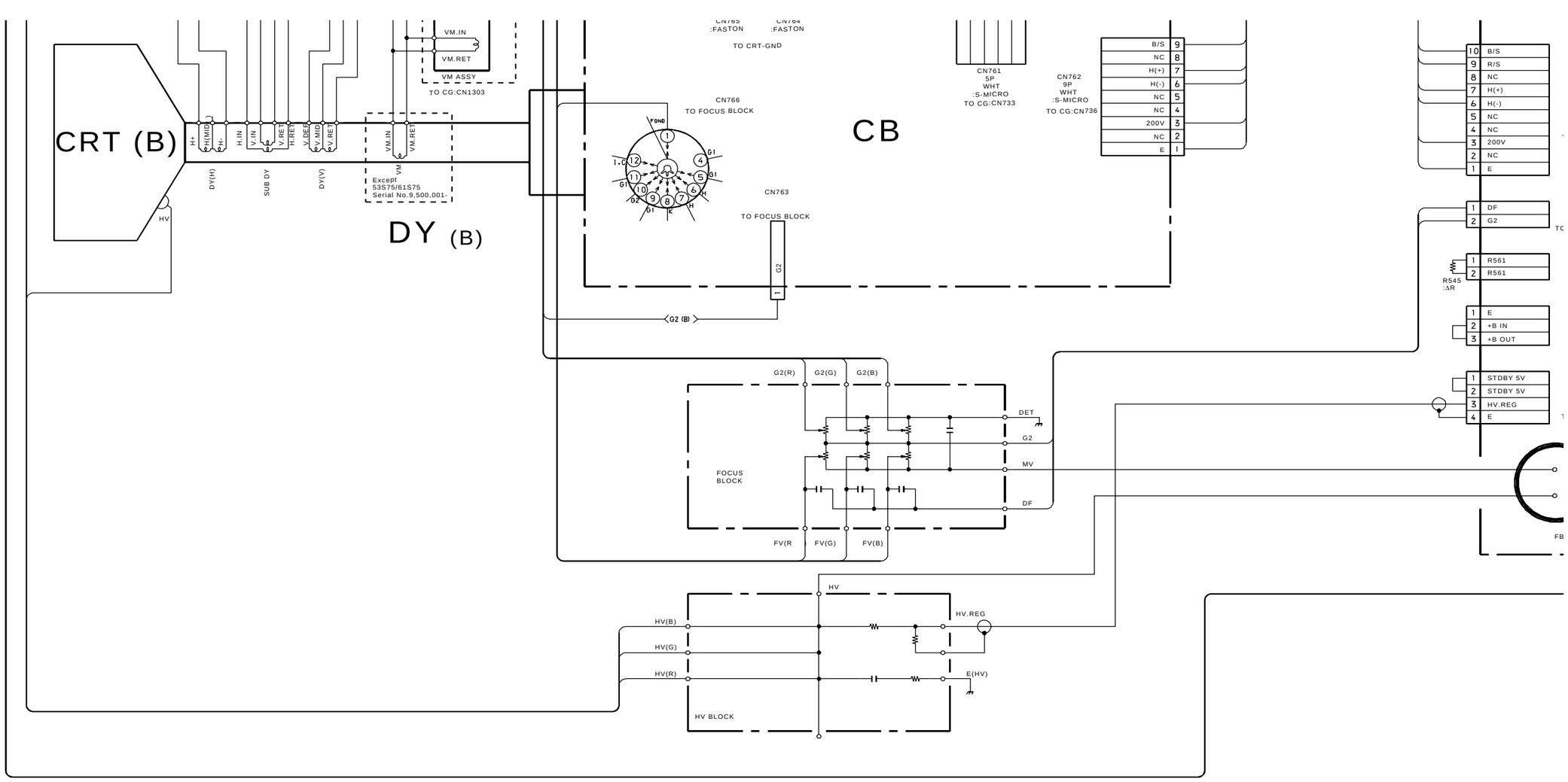
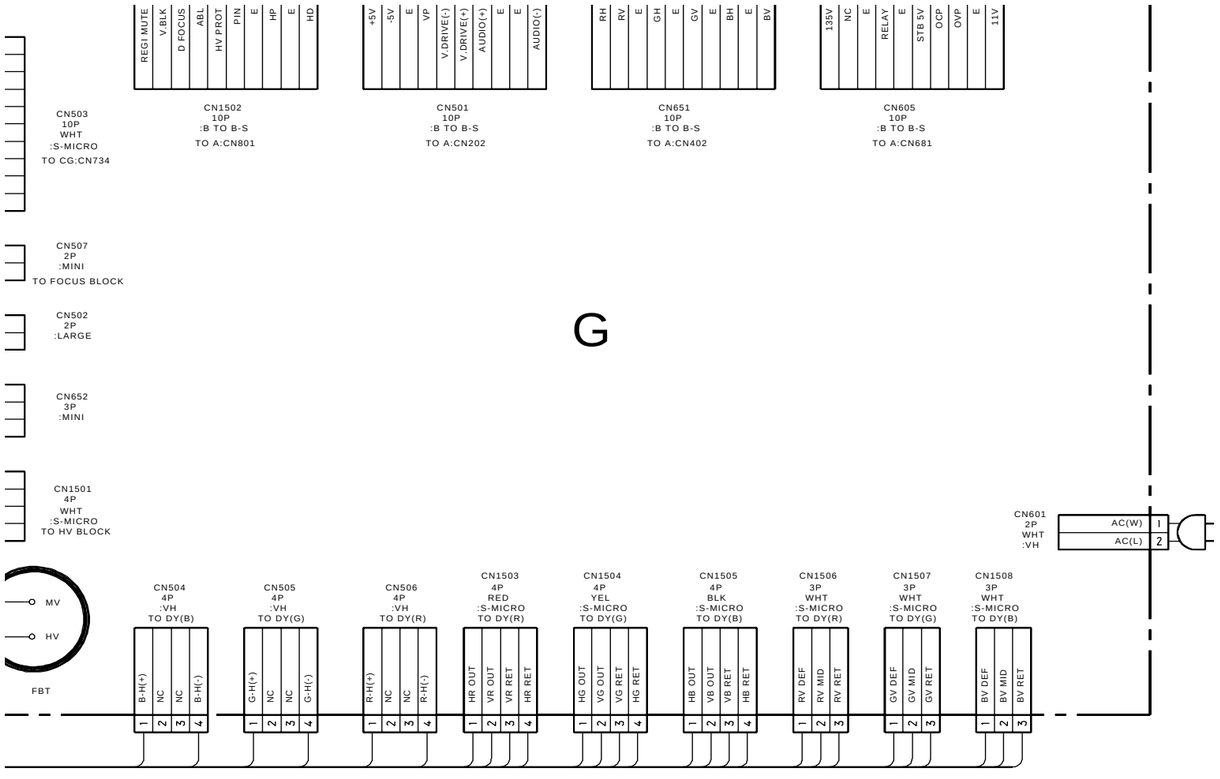
5-4. FRAME SCHEMATIC DIAGRAM

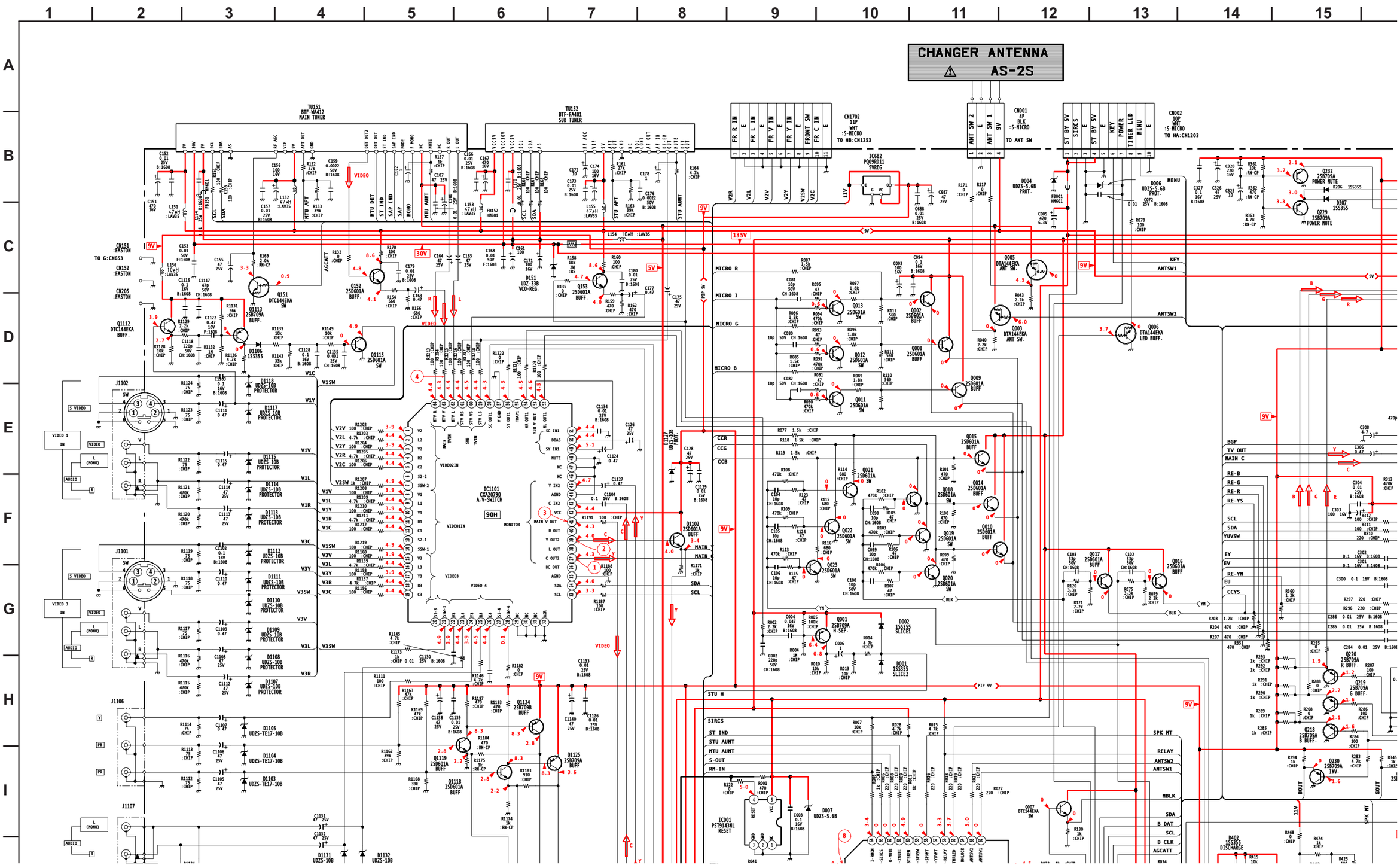


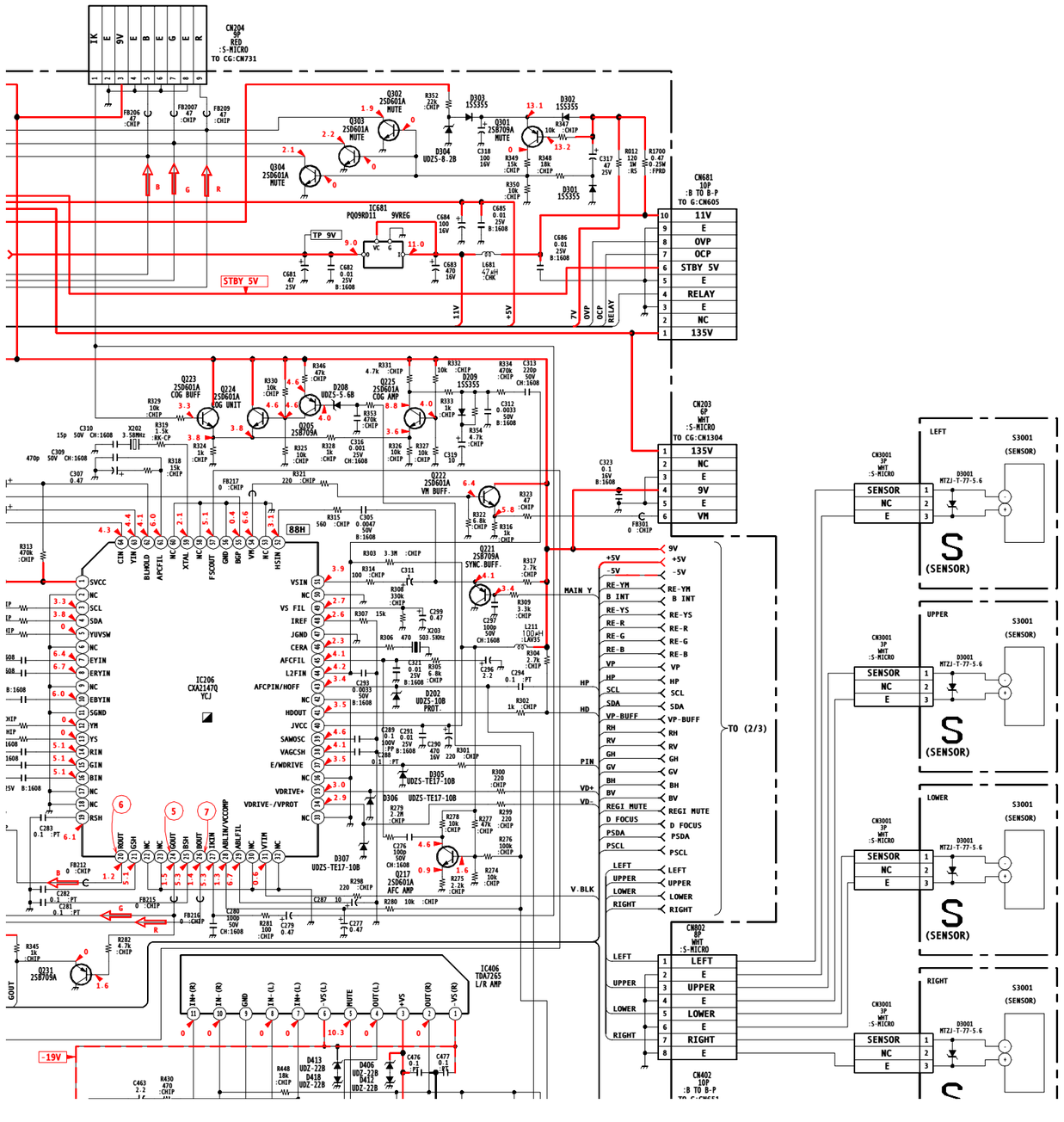

CN1291
3P
WHT-L
:S-MICRO
TO HA:CN1201
1 ST BY 5V
2 SIRCS
3 E
HC
(IN/OUT SELECT)
HA
CN1202
2P
WHT-L
:S-MICRO
TO HB:CN1252
MENU KEY 1
E 2
CN1203
7P
WHT-L
:S-MICRO
TO A:CN002
ST BY 5V
E
KEY
POWER
TIMER LED
MENU KEY
E
CN1252
2P
WHT-L
:S-MICRO
TO HA:CN1202
1 MENU KEY
2 E
HB
CN1253
11P
WHT-L
:S-MICRO
TO U:CN1702
FR R•OUT 1
E 2
FR L•OUT 3
E 4
FR V•OUT 5
E 6
FR Y•OUT 7
E 8
FRONT SW 9
FR C•OUT 10
E 11
WOOFER
L
WOOFER
R
TWEETER
L
TWEETER
R
L-T
R-T
ST BY 5V
SIRCS
E
ST BY 5V
E
KEY
POWER
TIMER LED
MENU
E
PSDA
PSCL
SIRCS
NC
NC
G
B
E
B INT
B DAT
B CLK
FR R IN
E
FR L IN
E
FR V IN
E
FR Y IN
E
FRONT SW
FR C IN
E
L
E
R
E
CN002
10P
WHT
:S-MICRO
TO HA BOARD CN1203
TO HC BOARD CN1291
CN003
11P
:B TO B-S
FOR
CHECK
CN1702
11P
WHT-L
:S-MICRO
TO HB:CN1253
CN403
4P
WHT
:S-MICRO
TO SPEAKER
CN001
4P
BLK
:S-MICRO
TO ANT SW
CN802
8P
WHT
:S-MICRO
TO S:CN3001
A
CN203
6P
WHT
:S-MICRO
TO CG:CN1304
CN204
9P
RED
:S-MICRO
TO CG:CN731
CN801
10P
:B TO B-P
TO G:CN1502
REGI MUTE
V.BLK
D FOCUS
ABL
HV PROT
PIN
E
HP
E
HD
CN202
10P
:B TO B-P
TO G:CN501
+5V
-5V
E
VP
V.DRIVE(-)
V.DRIVE(+)
AUDIO(+)
E
E
AUDIO(-)
CN402
10P
:B TO B-P
TO G:CN651
RH
RV
E
GH
E
GV
E
BH
E
BV
CN681
10P
:B TO B-P
TO G:CN605
135V
NC
E
RELAY
E
STBY 5V
OCP
OVP
E
11V


CRT (B)
H+
H(MID)
H-
H.IN
V.IN
V.RET
H.RET
V.DEF
V.MID
V.RET
VM.IN
VM
VM.RET
VM.IN
VM.RET
VM ASSY
TO CG:CN1303
DY(H)
SUB DY
DY(V)
Except
53S75/61S75
Serial No.9,500,001-
DY (B)
HV
CN765
:FASTON
CN766
:FASTON
TO CRT-GND
CN766
TO FOCUS BLOCK
CB
CN763
TO FOCUS BLOCK
G2
G2 (B)
CN761
5P
WHT
:S-MICRO
TO CG:CN733
CN762
9P
WHT
:S-MICRO
TO CG:CN736
B/S 9
NC 8
H(+) 7
H(-) 6
NC 5
NC 4
200V 3
NC 2
E 1
10 B/S
9 R/S
8 NC
7 H(+)
6 H(-)
5 NC
4 NC
3 200V
2 NC
1 E
1 DF
2 G2
TO
1 R561
2 R561
R545
:ΔR
1 E
2 +B IN
3 +B OUT
1 STDBY 5V
2 STDBY 5V
3 HV.REG
4 E
FB
G2(R)
G2(G)
G2(B)
FOCUS
BLOCK
DET
G2
MV
DF
FV(R)
FV(G)
FV(B)
HV
HV(B)
HV(G)
HV(R)
HV.REG
E(HV)
HV BLOCK

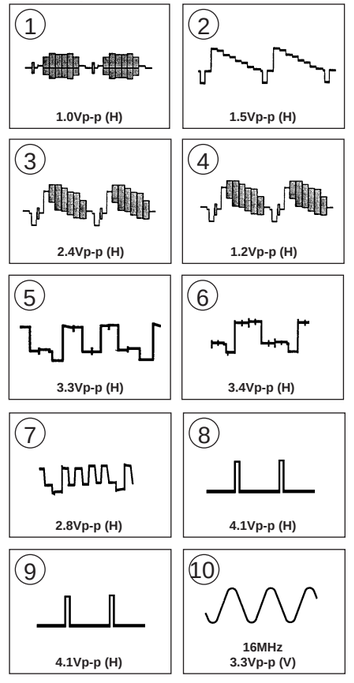

REGI MUTE
V.BLK
D FOCUS
ABL
HV PROT
PIN
E
HP
E
HD
CN1502
10P
:B TO B-S
TO A:CN801
+5V
-5V
E
VP
V.DRIVE(-)
V.DRIVE(+)
AUDIO(+)
E
E
AUDIO(-)
CN501
10P
:B TO B-S
TO A:CN202
RH
RV
E
GH
E
GV
E
BH
E
BV
CN651
10P
:B TO B-S
TO A:CN402
135V
NC
E
RELAY
E
STB 5V
OCP
OVP
E
11V
CN605
10P
:B TO B-S
TO A:CN681
CN503
10P
WHT
:S-MICRO
TO CG:CN734
CN507
2P
:MINI
TO FOCUS BLOCK
CN502
2P
:LARGE
CN652
3P
:MINI
CN1501
4P
WHT
:S-MICRO
TO HV BLOCK
G
CN601
2P
WHT
:VH
AC(W) 1
AC(L) 2
MV
HV
FBT
CN504
4P
:VH
TO DY(B)
B-H(+)
NC
NC
B-H(-)
CN505
4P
:VH
TO DY(G)
G-H(+)
NC
NC
G-H(-)
CN506
4P
:VH
TO DY(R)
R-H(+)
NC
NC
R-H(-)
CN1503
4P
RED
:S-MICRO
TO DY(R)
HR OUT
VR OUT
VR RET
HR RET
CN1504
4P
YEL
:S-MICRO
TO DY(G)
HG OUT
VG OUT
VG RET
HG RET
CN1505
4P
BLK
:S-MICRO
TO DY(B)
HB OUT
VB OUT
VB RET
HB RET
CN1506
3P
WHT
:S-MICRO
TO DY(R)
RV DEF
RV MID
RV RET
CN1507
3P
WHT
:S-MICRO
TO DY(G)
GV DEF
GV MID
GV RET
CN1508
3P
WHT
:S-MICRO
TO DY(B)
BV DEF
BV MID
BV RET

A BOARD SCHEMATIC DIAGRAM (1 OF 3)

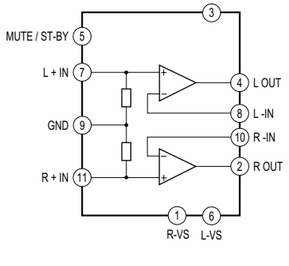




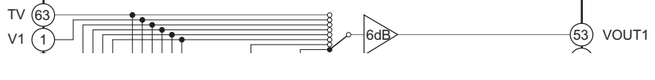
A (1/3) BOARD WAVEFORMS

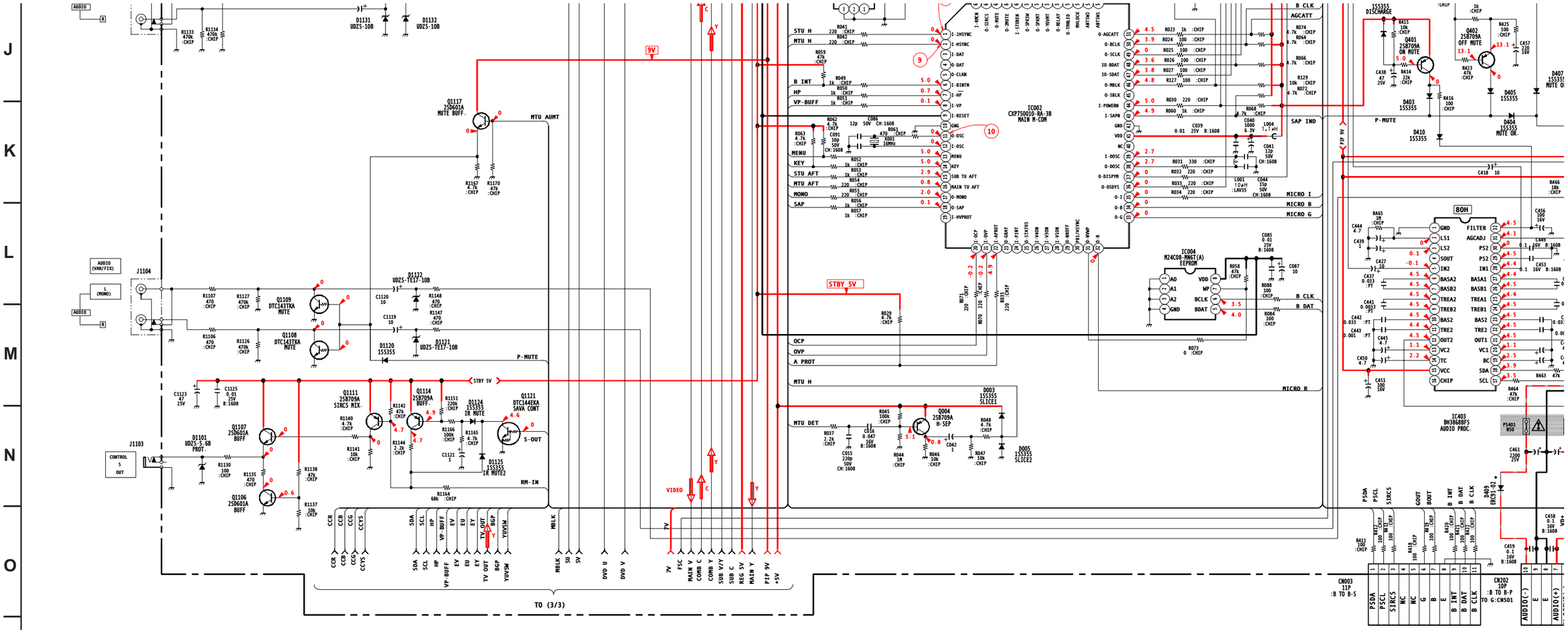


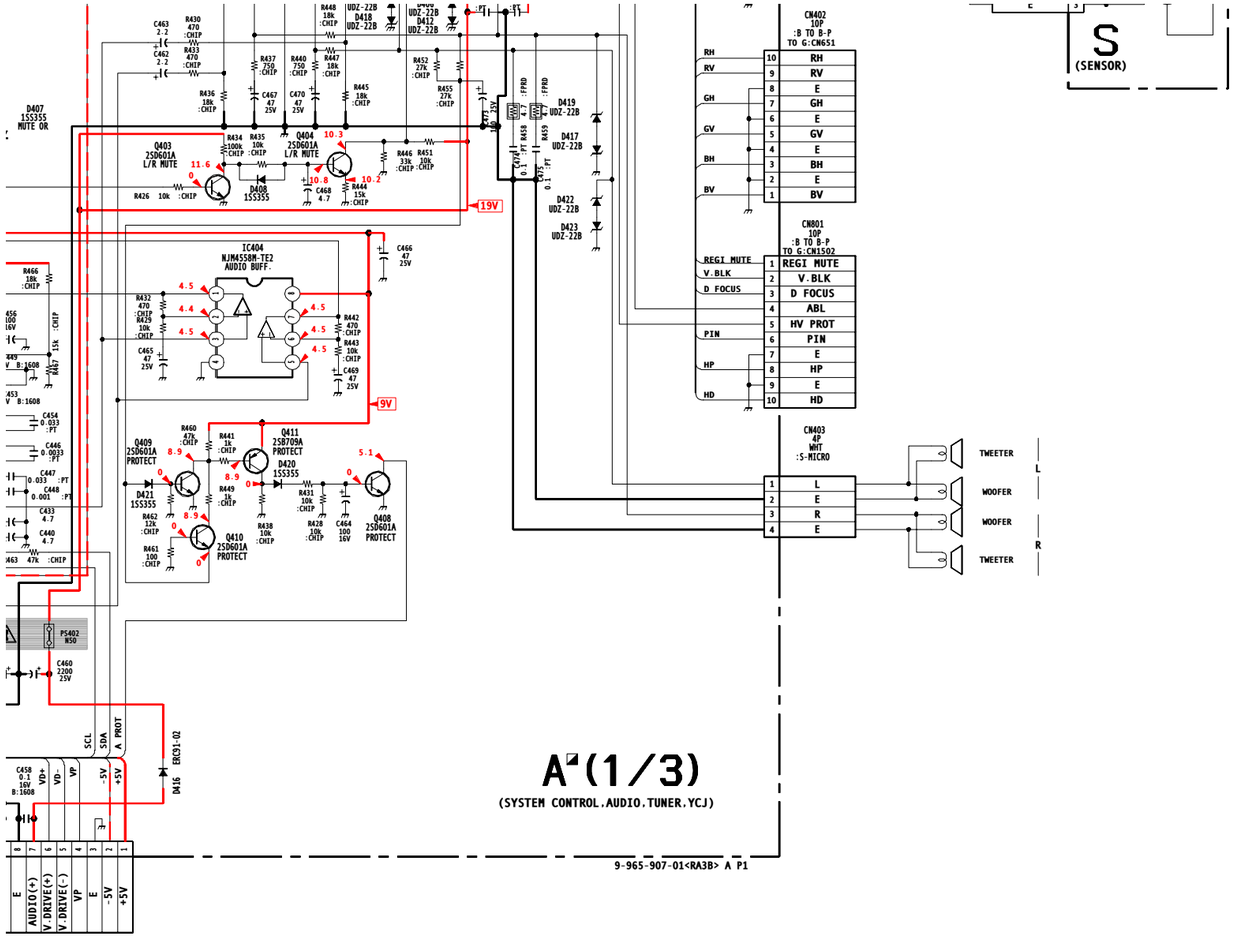
A (1/3) BOARD : IC406 TDA7265

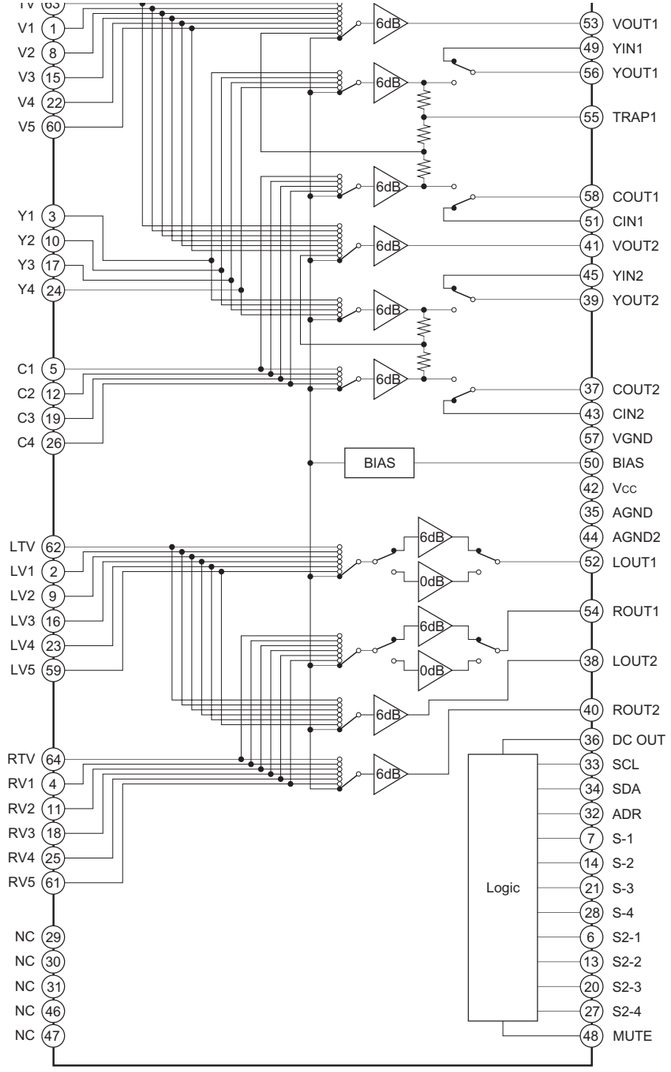


A (1/3) BOARD : IC1011 CXA2079Q

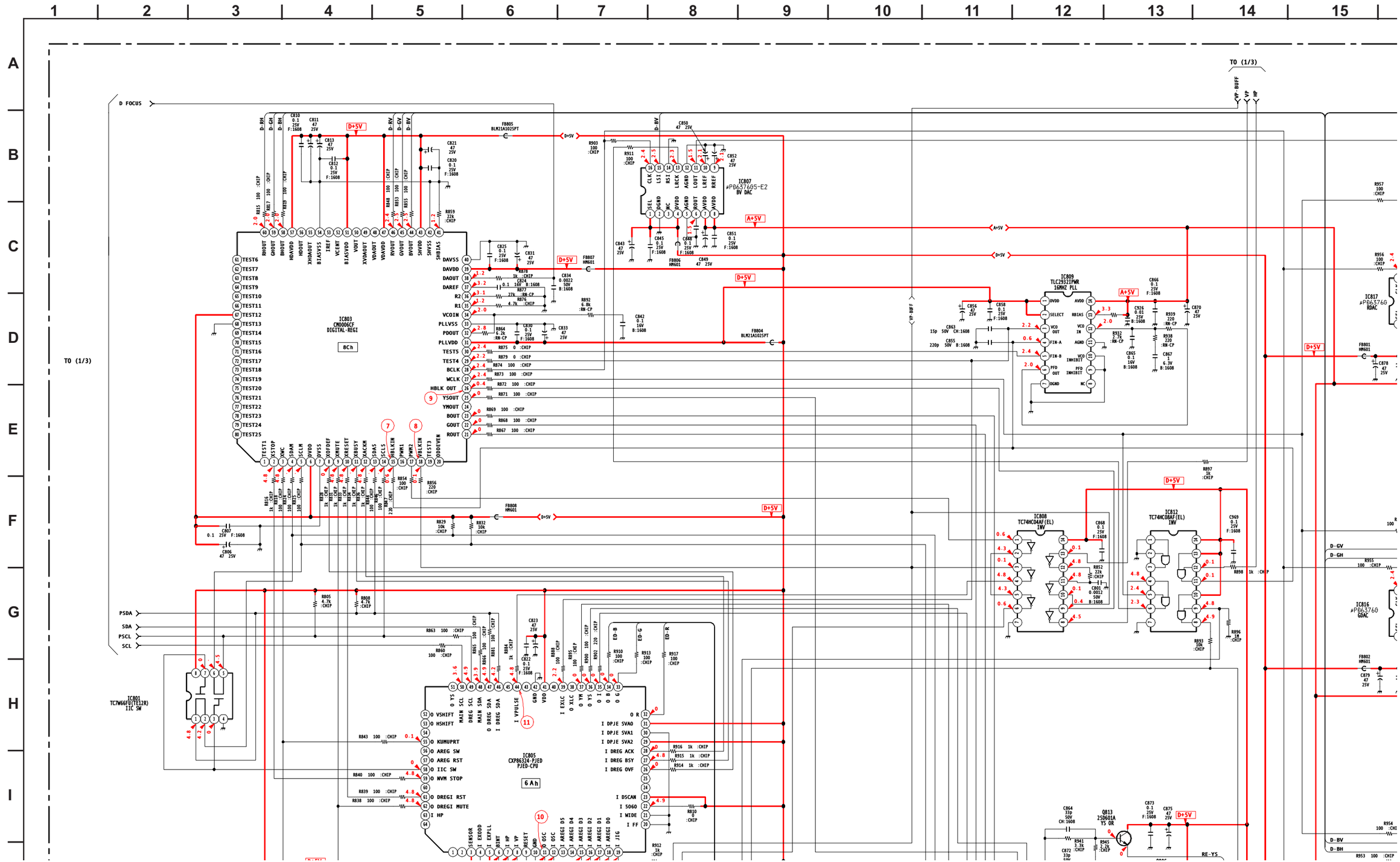


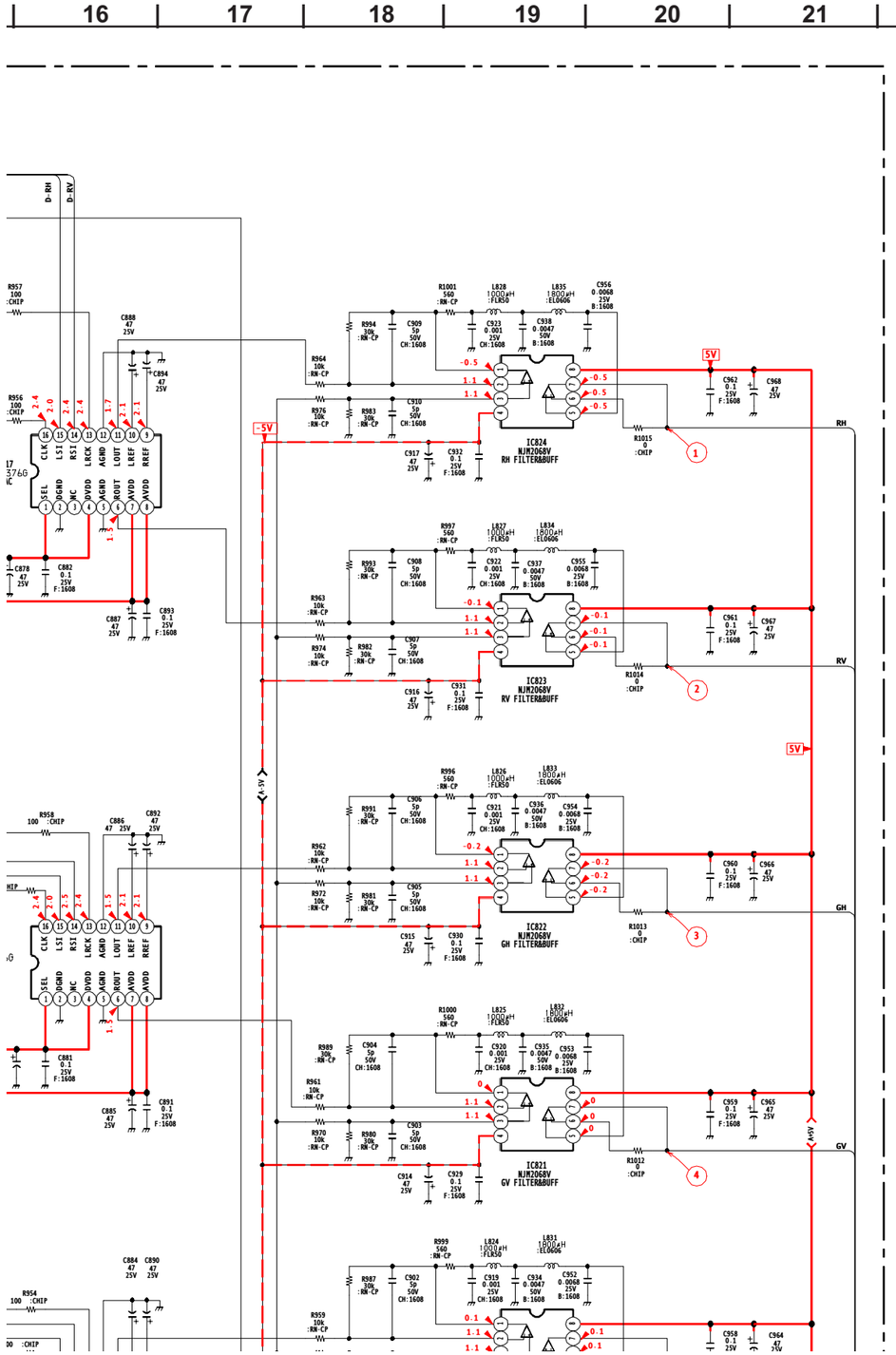

J
K
L
M
N
O
AUDIO
R
L
AUDIO (VAR/FIX)
(MONO)
J1104
J1103
CONTROL S OUT
D1131 UDZS-10B
D1132 UDZS-10B
D1122 UDZS-TE17-10B
D1121 UDZS-TE17-10B
D1120 1SS355
D1101 UDZS-5.6B PROT.
Q1117 2SD601A MUTE BUFF.
Q1109 DTC143TKA MUTE
Q1108 DTC143TKA MUTE
Q1107 2SD601A BUFF
Q1106 2SD601A BUFF
Q1111 2SB709A SIRCS MIX.
Q1114 2SB709A BUFF.
Q1121 DTC144EKA SAVA CONT
D1124 1SS355 1K MUTE
D1125 1SS355 1K MUTE2
MTU AUMT
P-MUTE
STBY 5V
S-OUT
RM-IN
9V
VIDEO
Y
C
7V
TO (3/3)
IC002 CXP75001O-RA-3B MAIN M-COM
STU H
MTU H
B INT
HP
VP-BUFF
MENU
KEY
STU AFT
MTU AFT
MONO
SAP
OCP
OVP
A PROT
MTU DET
IC004 M24C08-RMGT(A) EEPROM
Q004 2SB709A H-SEP
D003 1SS355 SLICE1
D005 1SS355 SLICE2
B CLK
B DAT
AGCATT
SAP IND
MICRO I
MICRO B
MICRO G
MICRO R
IC403 BH3868BFS AUDIO PROC.
80H
FILTER
AGCADJ
PS2
IN1
BASA1
BASB1
TREA1
TREB1
BAS2
TRE2
OUT1
VC1
BC
SDA
SCL
VCC
CHIP
P-MUTE
OFF MUTE
ON MUTE
MUTE OK.
DISCHARGE
FIP 9V
CN003 11P :B TO B-S
CN202 10P :B TO B-P TO G:CN501
PSDA
PSCL
SIRCS
NC
G
B
E
B INT
B DAT
B CLK
AUDIO(-)
AUDIO(+)


CN402
10P
:B TO B-P
TO G:CN651
RH
RV
GH
GV
BH
BV
CN801
10P
:B TO B-P
TO G:CN1502
REGI MUTE
V.BLK
D FOCUS
ABL
HV PROT
PIN
HP
HD
CN403
4P
WHT
:S-MICRO
L
E
R
E
TWEETER
WOOFER
WOOFER
TWEETER
(SENSOR)
IC404
NJM4558M-TE2
AUDIO BUFF.
Q403
2SD601A
L/R MUTE
Q404
2SD601A
L/R MUTE
Q409
2SD601A
PROTECT
Q410
2SD601A
PROTECT
Q411
2SB709A
PROTECT
Q408
2SD601A
PROTECT
D407
1SS355
MUTE OR
D408
1SS355
D420
1SS355
D421
1SS355
D422
UDZ-22B
D423
UDZ-22B
D416
ERC91-02
19V
9V
SCL
SDA
A PROT
-5V
+5V
VP
VD-
VD+
E
-5V
+5V
E
AUDIO(+)
V DRIVE(+)
V DRIVE(-)
VP
E
-5V
+5V
A (1/3)
(SYSTEM CONTROL.AUDIO.TUNER.YCJ)
9-965-907-01<RA3B> A P1

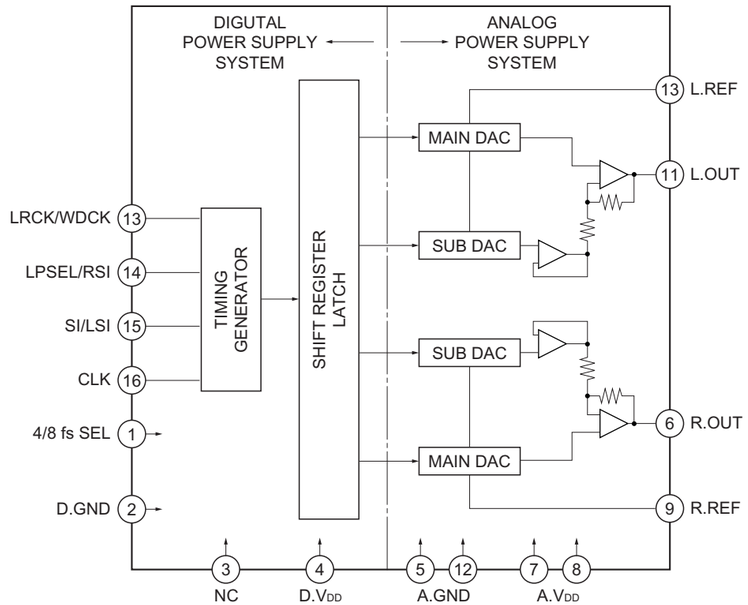

V1 1
V2 8
V3 15
V4 22
V5 60
Y1 3
Y2 10
Y3 17
Y4 24
C1 5
C2 12
C3 19
C4 26
LTV 62
LV1 2
LV2 9
LV3 16
LV4 23
LV5 59
RTV 64
RV1 4
RV2 11
RV3 18
RV4 25
RV5 61
NC 29
NC 30
NC 31
NC 46
NC 47
6dB
0dB
BIAS
Logic
53 VOUT1
49 YIN1
56 YOUT1
55 TRAP1
58 COUT1
51 CIN1
41 VOUT2
45 YIN2
39 YOUT2
37 COUT2
43 CIN2
57 VGND
50 BIAS
42 Vcc
35 AGND
44 AGND2
52 LOUT1
54 ROUT1
38 LOUT2
40 ROUT2
36 DC OUT
33 SCL
34 SDA
32 ADR
7 S-1
14 S-2
21 S-3
28 S-4
6 S2-1
13 S2-2
20 S2-3
27 S2-4
48 MUTE

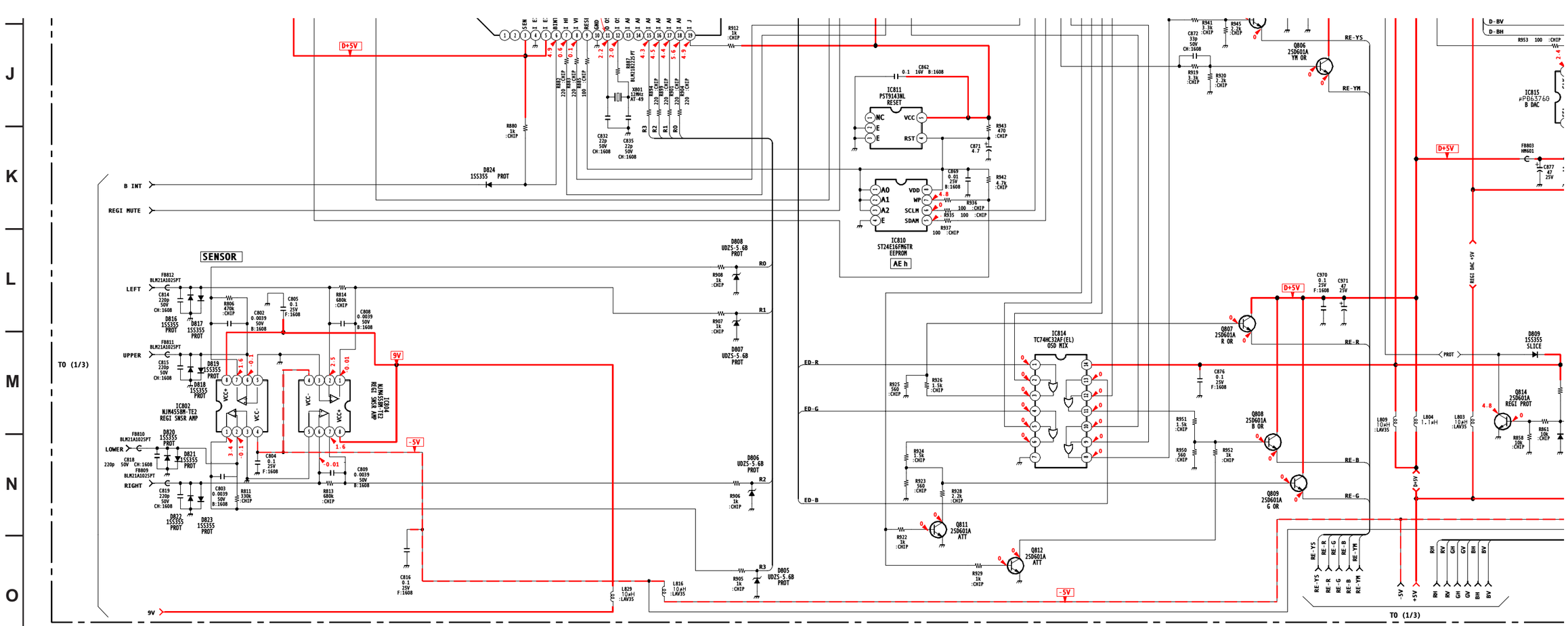
A BOARD SCHEMATIC DIAGRAM (2 OF 3)

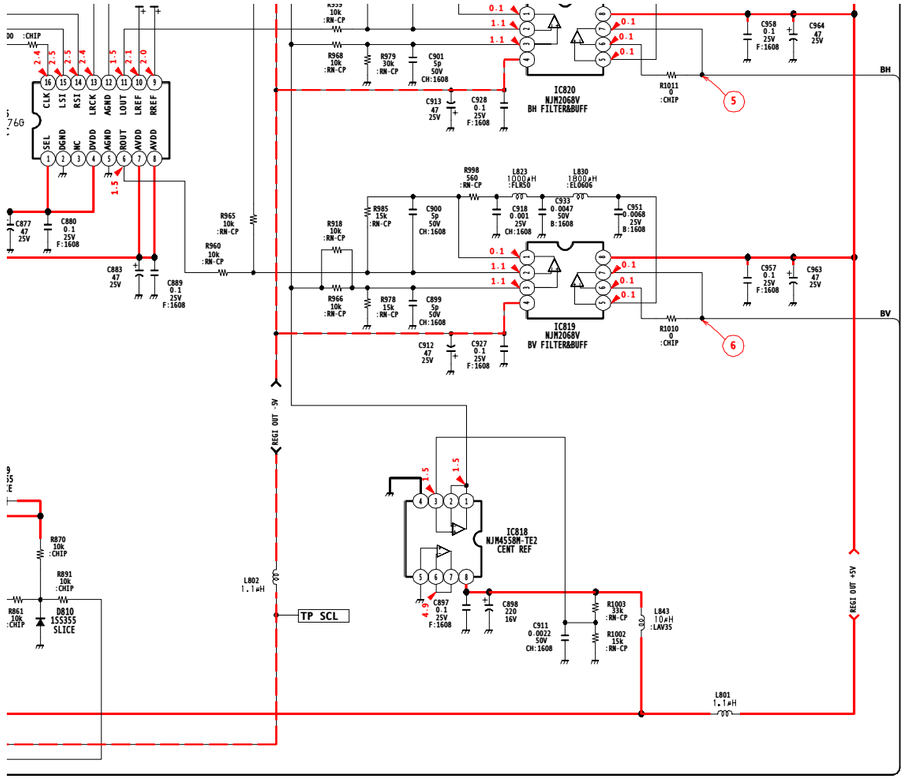




A (2/3) BOARD : IC807, 815, 816, 817
µPD6376GS-E2




J
K
L
M
N
O
D+5V
B INT
REGI MUTE
SENSOR
LEFT
UPPER
LOWER
RIGHT
FB812 BLM21A102SPT
FB811 BLM21A102SPT
FB810 BLM21A102SPT
FB809 BLM21A102SPT
IC802 NJM4558M-TE2 REGI SNSR AMP
IC804 NJM4558M-TE2 OSD SNSR AMP
9V
-5V
D808 UDZS-5.6B PROT
D807 UDZS-5.6B PROT
D806 UDZS-5.6B PROT
D805 UDZS-5.6B PROT
D824 1SS355 PROT
IC811 PST9143NL RESET
IC810 ST24E16FM6TR EEPROM
AE h
IC814 TC74HC32AF(EL) OSD MIX
IC815 μPD63760 B DAC
ED-R
ED-G
ED-B
Q806 2SD601A YM OR
Q807 2SD601A R OR
Q808 2SD601A B OR
Q809 2SD601A G OR
Q811 2SD601A ATT
Q812 2SD601A ATT
Q814 2SD601A REGI PROT
RE-YS
RE-YM
RE-R
RE-B
RE-G
REGI DAC +5V
TO (1/3)
TO (1/3)

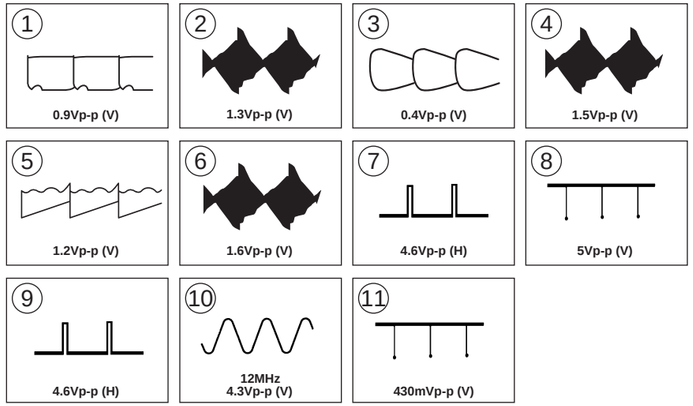


A (2/3)

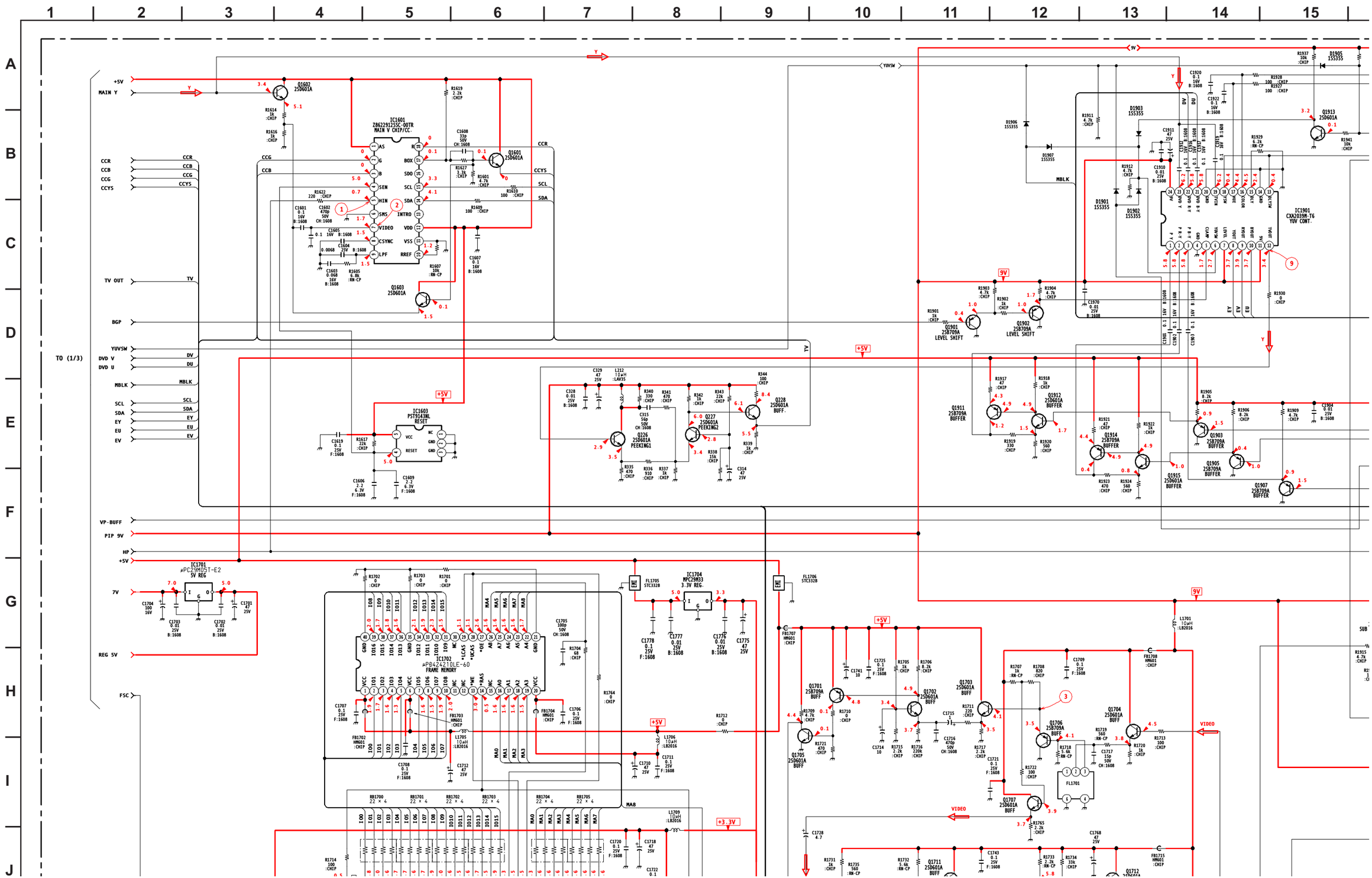
(PJED.REGI-CORRECTION)

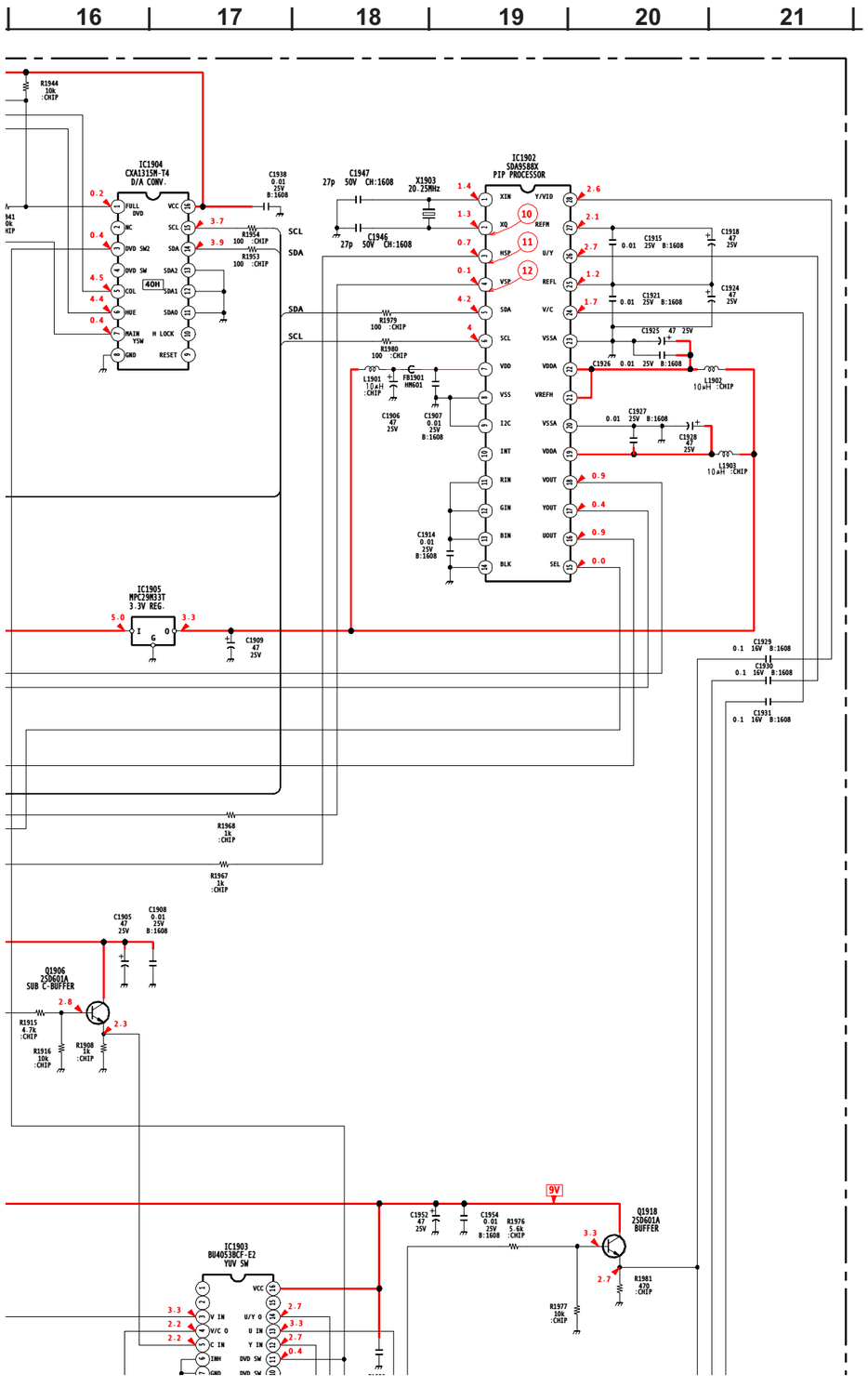
9-965-907-01<RA3B> A P2

A (2/3) BOARD WAVEFORMS



A BOARD SCHEMATIC DIAGRAM (3 OF 3)





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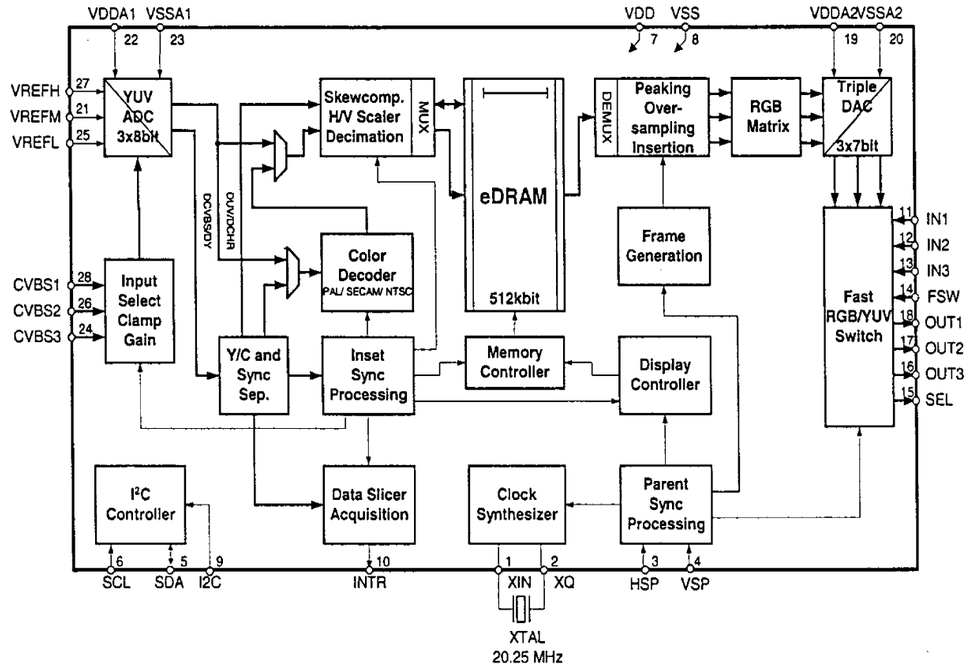
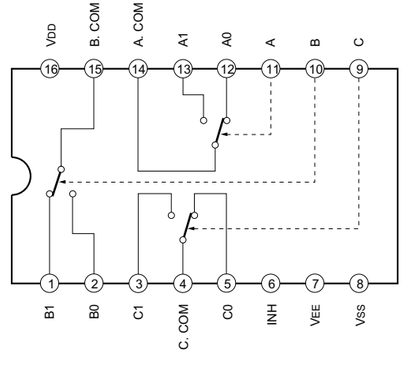
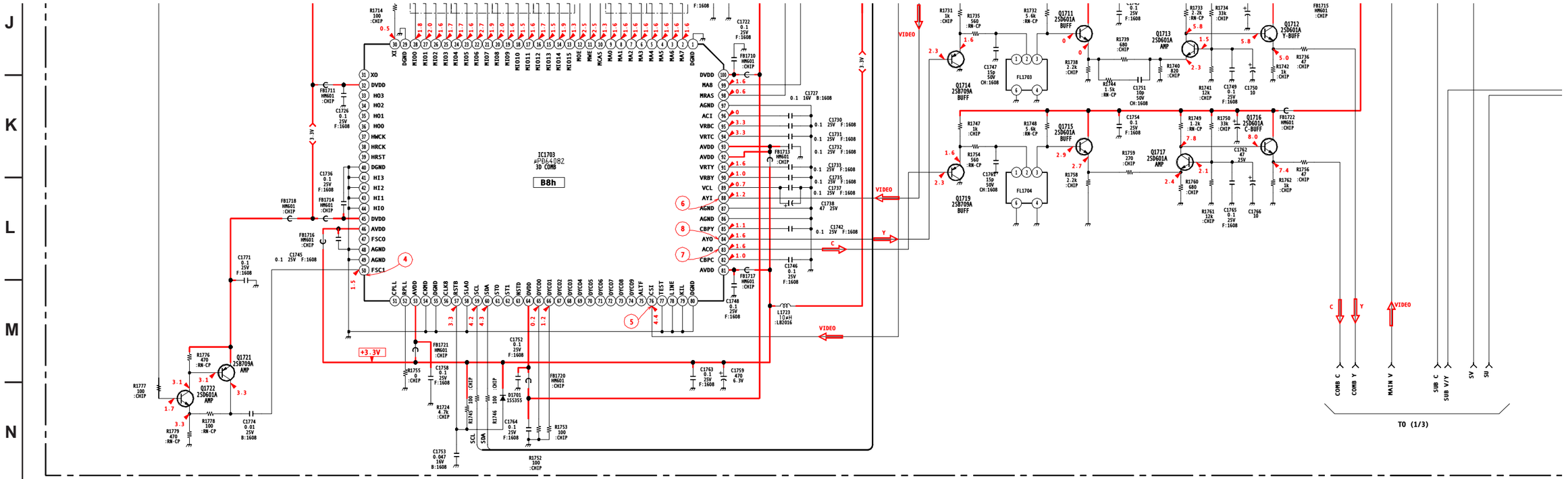
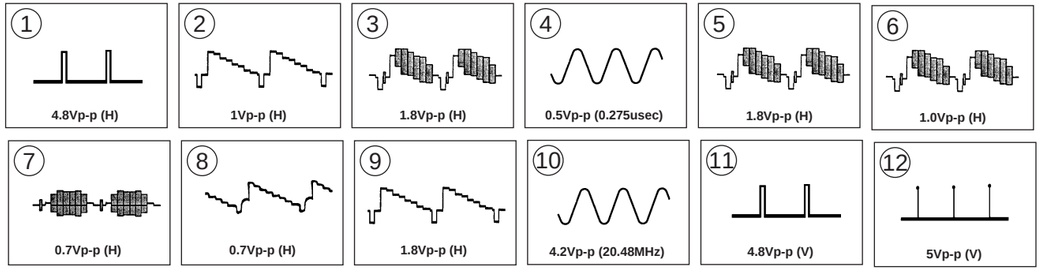


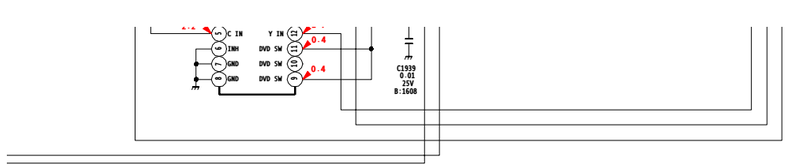
A (3/3) BOARD : IC1903 BU4053BCF-T2





A (3/3) BOARD WAVEFORMS



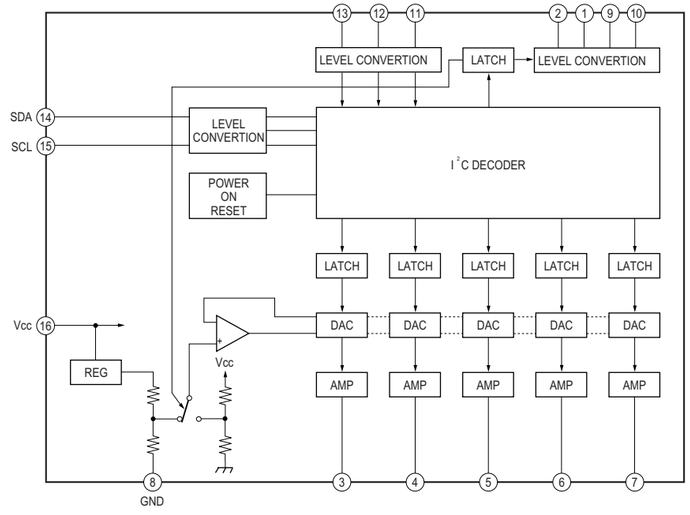


A(3/3)

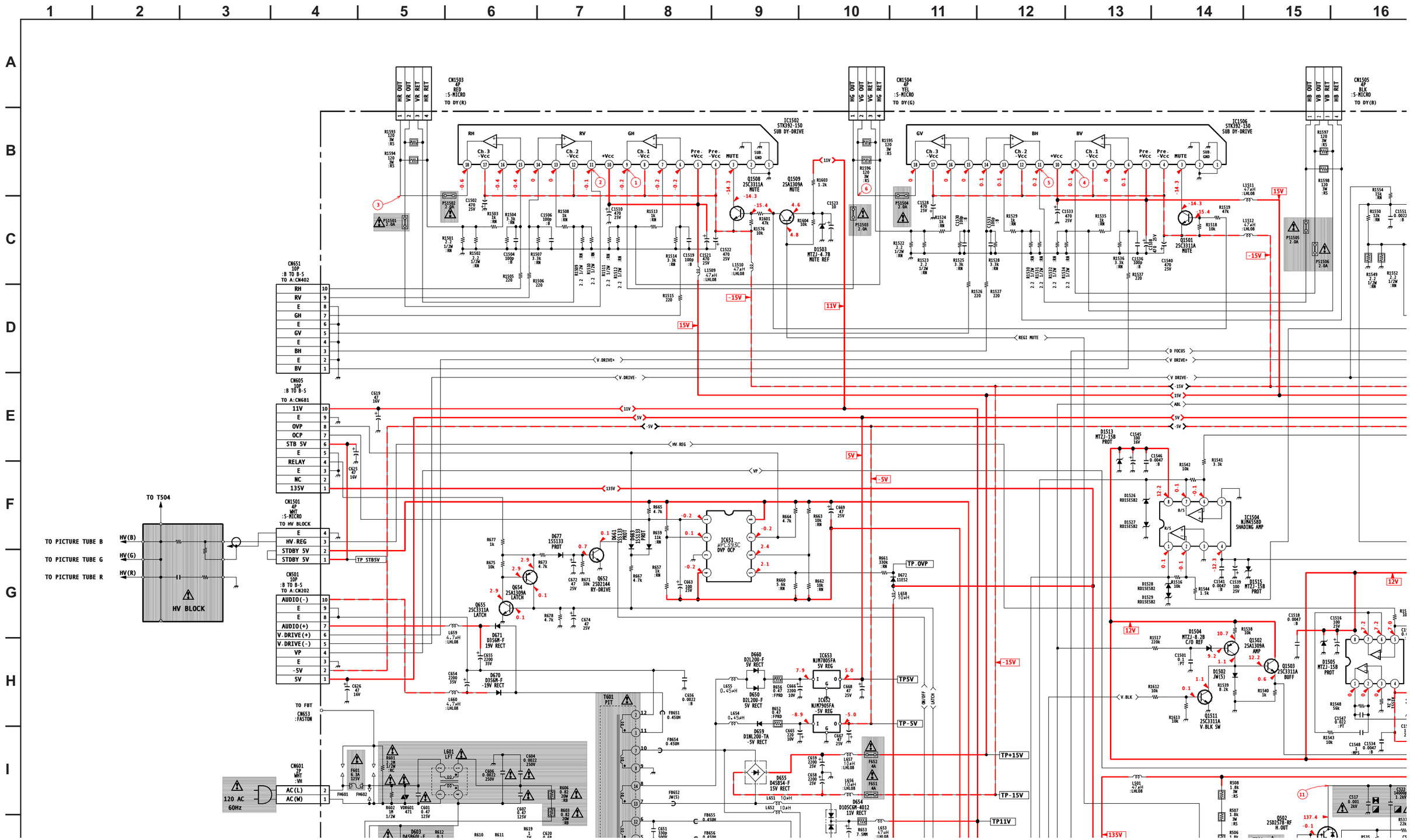
(P IN P.COMB FILTER)

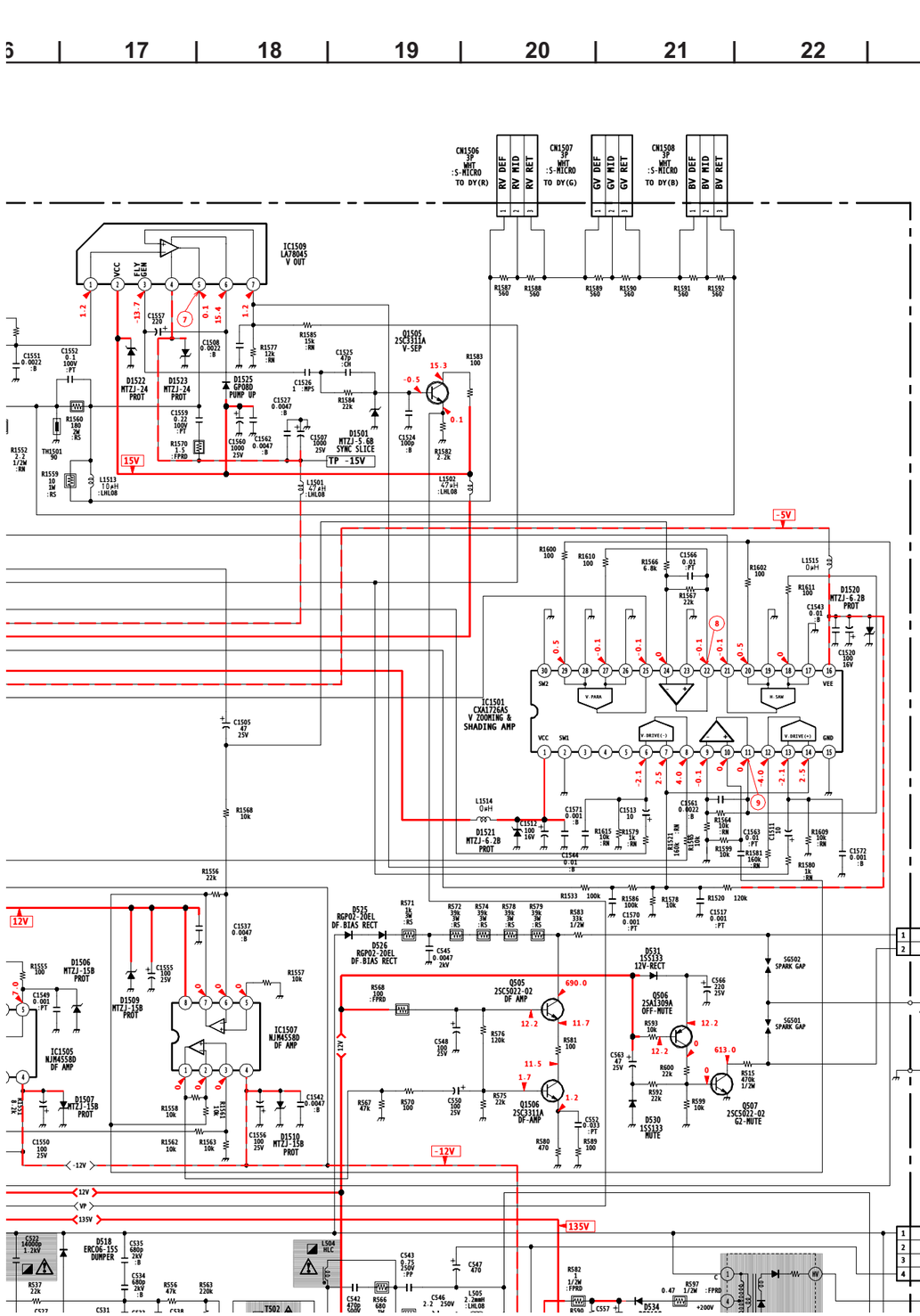
9-965-907-01<RA3B> A P3

A (3/3) BOARD : IC1904 CXA1315M-T4

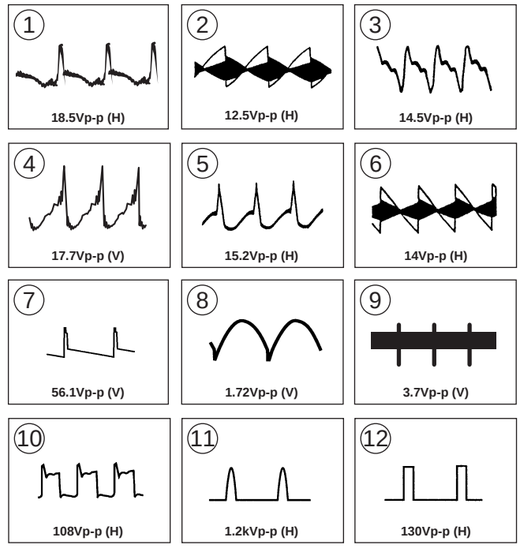


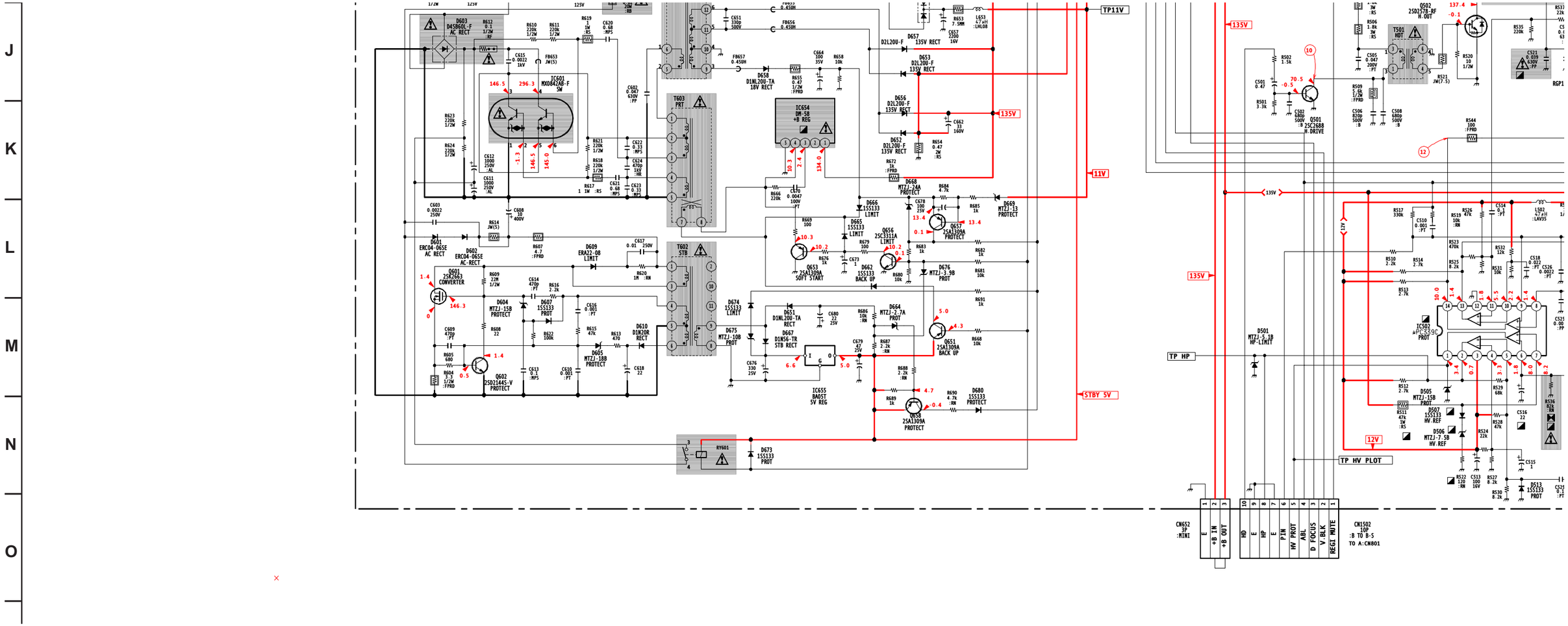
G BOARD SCHEMATIC DIAGRAM

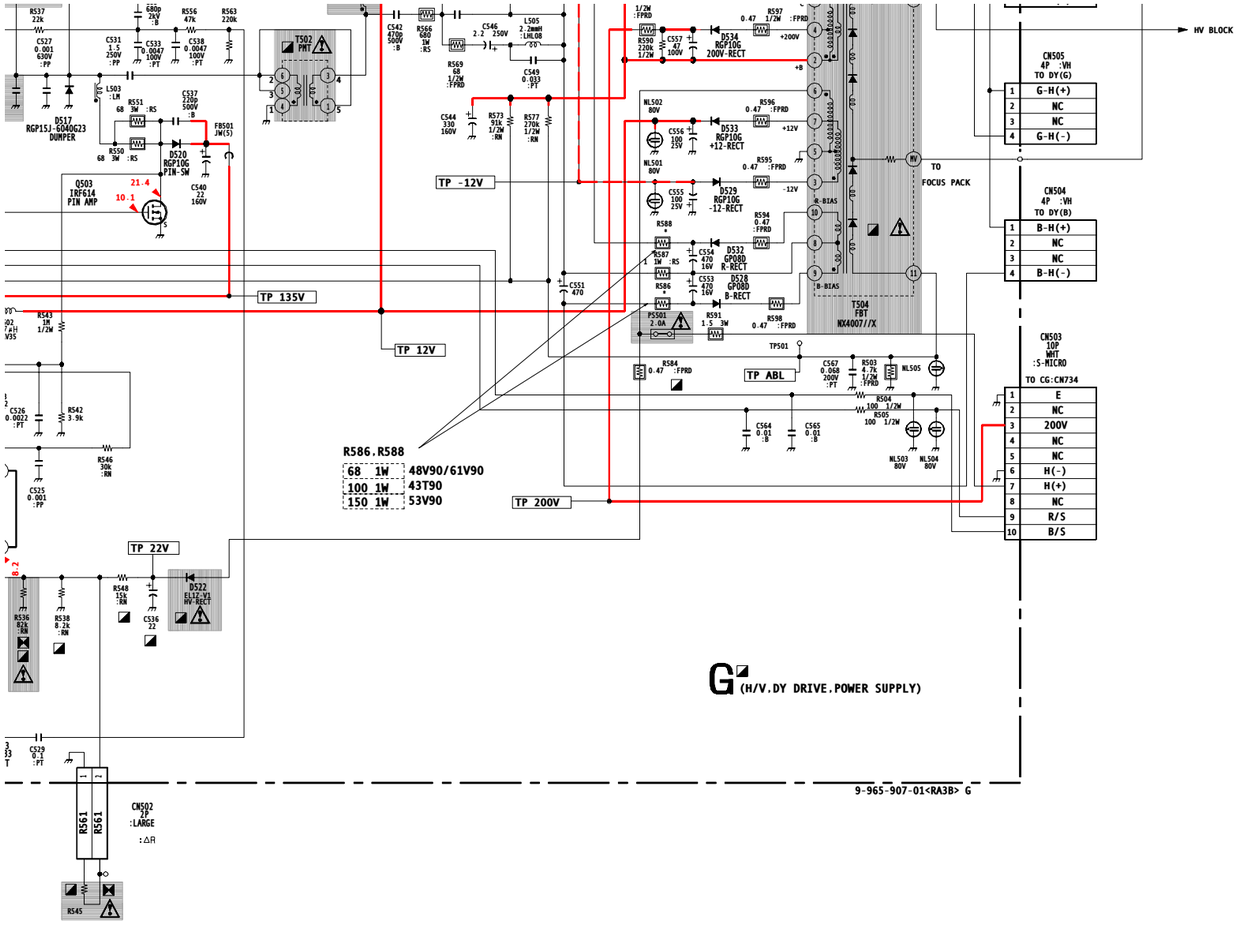




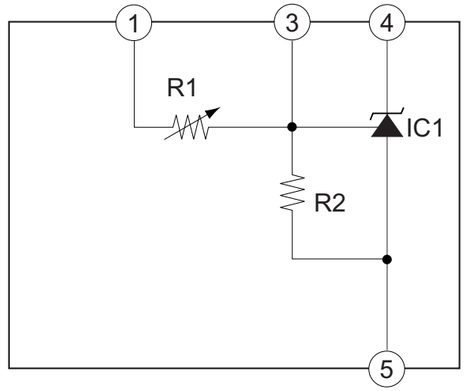
G BOARD WAVEFORMS



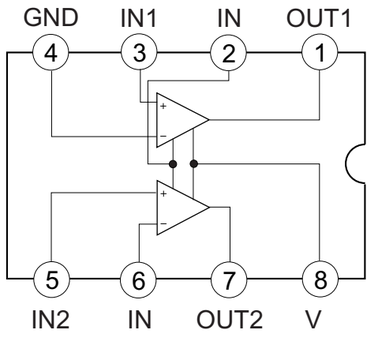

TP11V
135V
11V
135V
STBY 5V
TP HP
TP HV PLOT
12V
CN652 3P :MINI
E
+B IN
+B OUT
CN1502 10P :B TO B-5 TO A:CN801
HD
E
HP
E
P1N
HV PROT
ABL
D FOCUS
V BLK
REGI MUTE



G BOARD : IC654 DM-58



G BOARD : IC651 µPC393C



HISTORY INFORMATION FOR THE FOLLOWING MANUAL:

SERVICE MANUAL RA-3B CHASSIS

MODEL NAME	*REMOTE COMMANDER*	*DESTINATION*	*CHASSIS NO.*
KP-43T90	*RM-Y906*	*US/Canada/Mexico*	*SCC-P62A-A*
KP-48V90	*RM-Y906*	*US/Canada/Mexico*	*SCC-P62D-A*
KP-53V90	*RM-Y906*	*US/Canada/Mexico*	*SCC-P62C-A*
KP-61V90	*RM-Y906*	*US/Canada/Mexico*	*SCC-P62B-A*

ORIGINAL MANUAL ISSUE DATE: 5/2001

ALL REVISIONS AND UPDATES TO THE ORIGINAL MANUAL ARE APPENDED TO THE END OF THE PDF FILE.

REVISION DATE	REVISION TYPE	SUBJECT
5/2001	No revisions or updates are applicable at this time.	

COLOR REAR VIDEO PROJECTOR

SONY®

9-965-907-01

SONY

4-082-881-**11**(1)

Projection TV

Operating Instructions

FLASH FOCUS

Free Layout Picture-in-Picture (PIP)

3D Digital Comb Filter

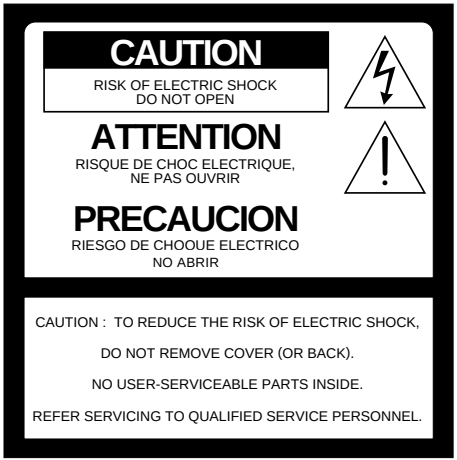
Component Input ($Y/P_b/P_r$)

KP-43T90
KP-48V90
KP-53V90
KP-61V90

© 2001 Sony Corporation

WARNING

To prevent fire or shock hazard, do not expose the TV to rain or moisture.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION

To prevent electric shock, do not use this polarized AC plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

CAUTION

When using TV games, computers and similar products with your projection TV, or viewing a TV station whose logo always stays on the screen, keep the brightness and contrast functions at low settings. If a fixed (non-moving) pattern such as a station logo is left on the screen for long periods of time, especially at a high brightness or contrast setting, the image can be permanently imprinted onto the screen. These types of imprints are not covered by your warranty.

Note on Caption Vision

This television receiver provides display of television closed captioning in accordance with §15.119 of the FCC rules.

Note on convergence adjustment

Before you use your projection TV, make sure to adjust convergence. For details, see page 19.

Note to CATV system installer

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

Use of this television receiver for other than private viewing of programs broadcast on UHF or VHF or transmitted by cable companies for the use of the general public may require authorization from the broadcaster/cable company and/or program owner.

NOTIFICATION

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference with radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- **Reorient or relocate the receiving antennas.**
- **Increase the separation between the equipment and receiver.**
- **Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.**
- **Consult the dealer or an experienced radio/TV technician for help.**

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

This document is for the remote control RM-Y906
MODELS: KP-43T90, KP-48V90, KP-53V90, KP-61V90

Please keep this notice with the instruction manual.

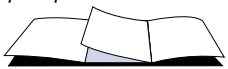
As an ENERGY STAR Partner, Sony Corporation has determined that this product meets the ENERGY STAR

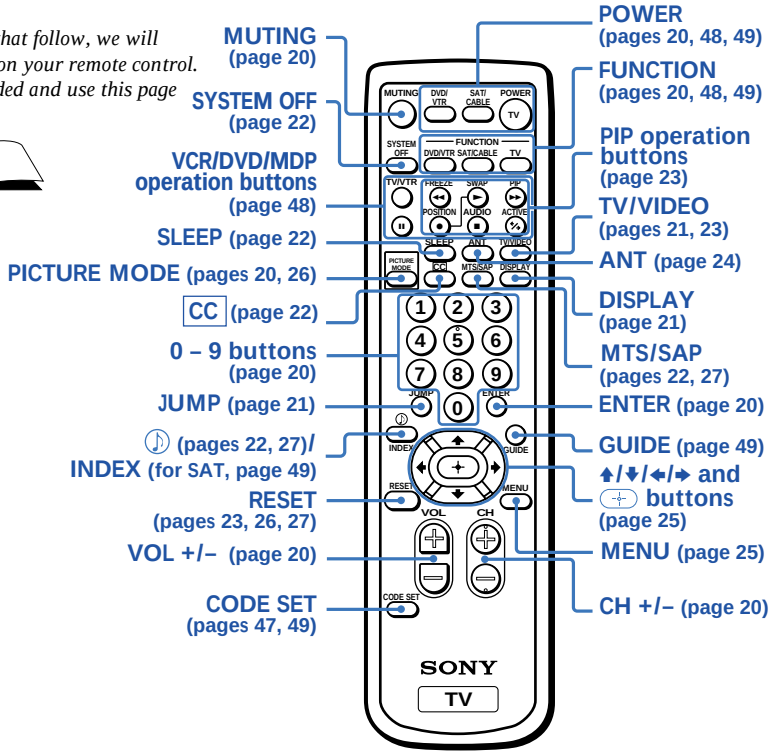
ATTENTION

Pour prévenir les chocs électriques, ne pas utiliser cette fiche polarisée avec un prolongateur, une prise de courant ou une autre sortie de courant, sauf si les lames peuvent être inserées à fond sans en laisser aucune partie à decouvert.

Remote Control

In the instructions that follow, we will refer to the buttons on your remote control. Keep this flap unfolded and use this page for reference.

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SYSTEM OFF (page 22)
VCR/DVD/MDP operation buttons (page 48)
SLEEP (page 22)
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JUMP (page 21)
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VOL +/– (page 20)
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POWER (pages 20, 48, 49)
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PIP operation buttons (page 23)
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GUIDE (page 49)
↑/↓/←/→ and ⊹ buttons (page 25)
MENU (page 25)
CH +/– (page 20)
SONY
TV

Getting to know the buttons on the remote control

Names of the buttons on the remote control are presented in different colors to represent the available functions.

Button color

Transparent .... Press to select the component you want to control; e.g. VTR (VCR) / MDP / DVD Player, SAT (satellite receiver) / CABLE, or projection TV.

Green ..... Buttons relevant to power operations, like turning the projection TV, SAT / CABLE, or VTR (VCR) / MDP / DVD Player on or off

Label color

White ..... TV / VTR (VCR) / MDP / DVD Player / SAT (satellite receiver) / CABLE operation buttons

Yellow ..... PIP operation buttons

Blue ..... SAT operation buttons

Green ..... S-Link operation buttons

Pink ..... DVD Player operation buttons

For a detailed explanation of most buttons, see "Watching the TV" on page 20.

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Owner's Record

The model and serial numbers are located at the rear of the projection TV, below the Sony logo, on the sticker, and also on the TV box (white label). Record these numbers in the spaces provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. _____

Serial No. _____

Welcome!

Thank you for purchasing the Sony Color Rear Video Projection TV.

This manual is for models KP-43T90, KP-48V90, KP-53V90, KP-61V90.

Model KP-53V90 is used for illustration purposes.

The features you will enjoy include:

- FLASH FOCUS, allowing you to adjust convergence automatically.
- Parental Control, enabling you to block programs that you feel are unsuitable for your children.
- Picture-in-Picture (PIP), allowing you to view another TV channel, video or cable image as a window picture.
- Favorite Channel, allowing you to view and choose from eight of your favorite channels
- Y / P_B / P_R inputs for DVD Player and DTV receiver connections.
- Three AUDIO / VIDEO / S VIDEO inputs.

Using This Manual

We recommend that you carefully review the contents of the following four sections in the order provided to ensure that you fully understand the operation of your new projection TV.

1 Installing and Connecting the Projection TV
This section guides you through your initial set up. It shows you how to install your projection TV, to connect your new components and to connect to the antenna and cable.

2 Basic Set Up
This section teaches you the basic skills needed to operate your new projection TV, including Auto Set Up. It shows you how to operate the remote control's special functions.

3 Using Your New Projection TV
This section shows you how to begin using your new projection TV. It shows you how to use your remote control's features.

4 Adjusting Your Set Up (menus)
This section teaches you how to access on-screen menus and adjust your projection TV's settings.

Instructions in this manual are written for the remote control. Similar controls may be found on the projection TV console.

Precautions

Safety

- Operate the projection TV only on 120 V AC.
- The plug is designed, for safety purposes, to fit into the wall outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.
- If any liquid or solid object should fall inside the cabinet, unplug the projection TV immediately and have it checked by qualified service personnel before operating it further.
- If you will not be using the projection TV for several days, disconnect the power by pulling the plug itself. Never pull on the cord.

Note on cleaning

Clean the cabinet of the projection TV with a dry soft cloth. To remove dust from the screen, wipe it gently with a soft cloth. Stubborn stains may be removed with a cloth slightly dampened with solution of mild soap and warm water. Never use strong solvents such as thinner or benzine for cleaning.

If the picture becomes dark after using the projection TV for a long period of time, it may be necessary to clean the inside of the projection TV. Consult qualified service personnel.

Installing

- To prevent internal heat buildup, do not block the ventilation openings.
- Do not install the projection TV in a hot or humid place, or in a place subject to excessive dust or mechanical vibration.
- Avoid operating the projection TV at temperatures below 5° C (41° F).
- If the projection TV is transported directly from a cold to a warm location, or if the room temperature changes suddenly, the picture may be blurred or show poor color. In this case, please wait a few hours to let the moisture evaporate before turning on the projection TV.
- To obtain the best picture, do not expose the screen to direct illumination or direct sunlight. It is recommended to use spot lighting directed down from the ceiling or to cover the windows that face the screen with opaque drapery. It is desirable to install the projection TV in a room where the floor and walls are not of a reflective material.

Important Safeguards

For your protection, please read these instructions completely, and keep this manual for future reference.

Carefully observe and comply with all warnings, cautions and instructions placed on the set, or described in the operating instructions or service manual.

WARNING

To guard against injury, the following basic safety precautions should be observed in the installation, use, and servicing of the set.

Use

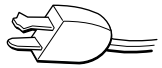
Power Sources

This set should be operated only from the type of power source indicated on the serial / model plate.

If you are not sure of the type of electrical power supplied to your home, consult your dealer or local power company. For those sets designed to operate from battery power, refer to the operating instructions.

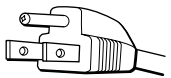
Grounding or Polarization

This set is equipped with a polarized AC power cord plug (a plug having one blade wider than the other), or with a three-wire grounding type plug (a plug having a third pin for grounding).
Follow the instructions below:



For the set with a polarized AC power cord plug

This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to have a suitable outlet installed. Do not defeat the safety purpose of the polarized plug by forcing it in.



Alternate Warning

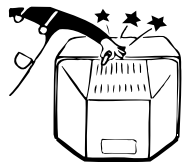
For the set with a three-wire grounding type AC plug

This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to have a suitable outlet installed. Do not defeat the safety purpose of the grounding plug.

Overloading

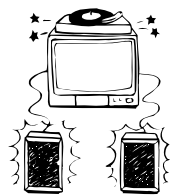
Do not overload wall outlets, extension cords or convenience receptacles beyond their capacity, since this can result in fire or electric shock.

Always turn the set off when it is not to be used. When the set is left unattended and unused for long periods of time, unplug it from the wall outlet as a precaution against the possibility of an internal malfunction that could create a fire hazard.



Object and Liquid Entry

Never push objects of any kind into the set through the cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock.
Never spill liquid of any kind on the set.



Attachments

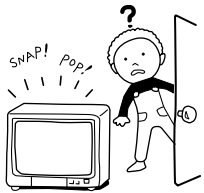
Do not use attachments not recommended by the manufacturer, as they may cause hazards.

(continued)

Important Safeguards (continued)

Cleaning

Unplug the set from the wall outlet before cleaning or polishing it. Do not use liquid cleaners or aerosol cleaners. Use a cloth lightly dampened with water for cleaning the exterior of the set.



If a snapping or popping sound from a projection TV set is continuous or frequent while the projection TV is operating, unplug the projection TV and consult your dealer or service technician.

It is normal for some projection TV sets to make occasional snapping or popping sounds, particularly when being turned on or off.

Installation

Water and Moisture

Do not use power-line operated sets near water— for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement or near a swimming pool, etc.

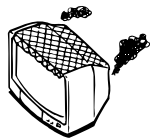
Accessories

Do not place the set on an unstable cart, stand, table or shelf. The set may fall, causing serious injury to a child or an adult, and serious damage to the set. Use only a cart or stand recommended by the manufacturer for the specific model of projection TV.

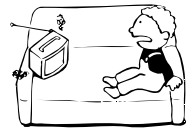
An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

Ventilation

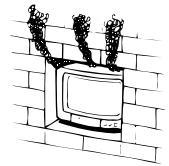
The slots and openings in the cabinet and in the back or bottom are provided for necessary ventilation. To ensure reliable operation of the set, and to protect it from overheating, these slots and openings must never be blocked or covered.



- Never cover the slots and openings with a cloth or other materials.



- Never block the slots and openings by placing the set on a bed, sofa, rug or other similar surface.



- Never place the set in a confined space, such as a bookcase, or built-in cabinet unless proper ventilation is provided.

- Do not place the set near or over a radiator or heat register, or where it is exposed to direct sunlight.

Power-Cord Protection

Do not allow anything to rest on or roll over the power cord, and do not place the set where the power cord is subject to wear or abuse.

Antennas

Outdoor Antenna Grounding — If an outdoor antenna is installed, follow the precautions below.

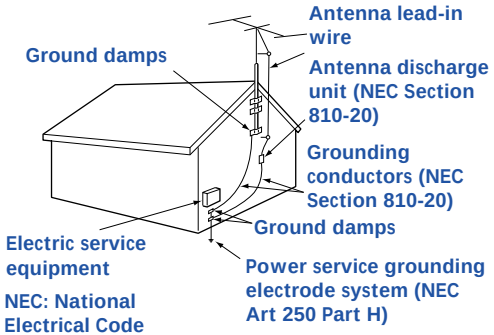
An outdoor antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can come in contact with such power lines or circuits.

WHEN INSTALLING AN OUTDOOR ANTENNA SYSTEM, EXTREME CARE SHOULD BE TAKEN TO KEEP FROM CONTACTING SUCH POWER LINES OR CIRCUITS AS CONTACT WITH THEM IS ALMOST INVARIABLY FATAL.

Be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges.

Section 810 of the National Electrical Code (NEC) in USA and Section 54 of the Canadian Electrical Code in Canada provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

Antenna Grounding According to the NEC — Refer to section 54-300 of Canadian Electrical Code for Antenna Grounding.


Antenna lead-in wire
Ground damps
Antenna discharge unit (NEC Section 810-20)
Grounding conductors (NEC Section 810-20)
Ground damps
Electric service equipment
Power service grounding electrode system (NEC Art 250 Part H)
NEC: National Electrical Code

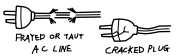
Lightning

For added protection for this television receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna. This will prevent damage to the receiver due to lightning and power-line surges.

Service

Damage Requiring Service

Unplug the set from the wall outlet and refer servicing to qualified service personnel under the following conditions:



- When the power cord or plug is damaged or frayed.

- If liquid has been spilled into the set.

- If the set has been exposed to rain or water.

- If the set has been subject to excessive shock by being dropped, or the cabinet has been damaged.

- If the set does not operate normally when following the operating instructions. Adjust only those controls that are specified in the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the set to normal operation.

- When the set exhibits a distinct change in performance—this indicates a need for service.

Servicing

Do not attempt to service the set yourself since opening the cabinet may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

Replacement Parts

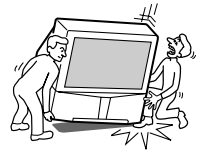
When replacement parts are required, be sure the service technician certifies in writing that he has used replacement parts specified by the manufacturer that have the same characteristics as the original parts. Unauthorized substitutions may result in fire, electric shock, or other hazards.

Safety Check

Upon completion of any service or repairs to the set, ask the service technician to perform routine safety checks (as specified by the manufacturer) to determine that the set is in safe operating condition, and to so certify.

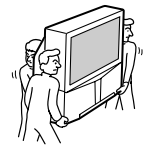
When the set reaches the end of its useful life, improper disposal could result in a picture tube implosion. Ask a qualified service technician to dispose of the set.

For Safety



Be careful when moving the projection TV

When you place the projection TV in position, be careful not to drop it on your foot or fingers. Watch your footing while installing the projection TV.



Carry the projection TV in the specified manner

If you carry the projection TV in a manner other than the specified manner and without the specified number of persons, it may drop and a serious injury may be caused. Be sure to follow the instructions mentioned below.

- Carry the projection TV with the specified number of persons.

- Do not carry the projection TV holding the speaker grill.

- Hold the projection TV tightly when carrying it.

Carrying Your Projection TV

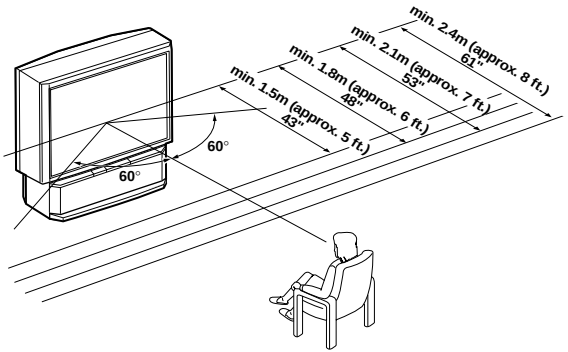
Carrying the projection TV requires three or more people.

For KP-48V90/53V90/61V90

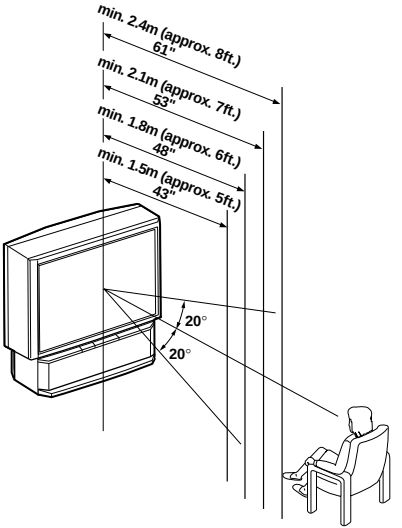
The projection TV has been equipped with casters for easy movement on a hard surface. Please move your projection TV using the casters.

Installing the Projection TV

Recommended viewing area (Horizontal)



Recommended viewing area (Vertical)



Connector Types

You may find it necessary to use some of the following connector types during set up.

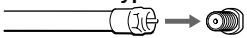
Coaxial cable

Standard TV cable and antenna cable

Plug Type

Push into connection.

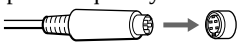
Screw-on Type



Screw into connection.

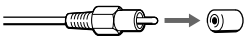
S Video cable

High quality video cable for enhanced picture quality



Align guides and push into connection.

Audio/Video cable



Push into connection.

Video - Yellow
Audio (Left) - White
Audio (Right) - Red

Some DVD Players and DTV Receivers are equipped with the following three video connectors.

Y - Green
PB (CB, Cb or B–Y) - Blue
PR (CR, Cr or R–Y) - Red

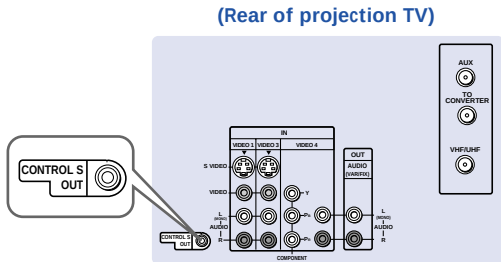
CONTROL S cable

Sony cable for CONTROL S connection. This feature is exclusive to Sony products and allow greater control of all Sony equipment.

Push into connection.

About the CONTROL S OUT jack

To control other Sony equipment with the projection TV's remote control, connect the CONTROL S IN jack of the equipment to the CONTROL S OUT jack on the projection TV with the CONTROL S cable.



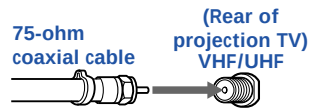
Making Connections

Connecting directly to a cable or an antenna

The connection you choose will depend on the cable found in your home. Newer homes will be equipped with standard coaxial cable (see **A**); older homes will probably have 300-ohm twin lead cable (see **B**); still other homes may contain both (see **C**).
Use 75-ohm coaxial cable for improved picture quality (see **A**).

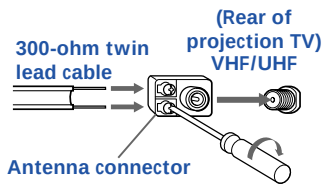
A

- VHF only
  or
- VHF/UHF
  or
- Cable

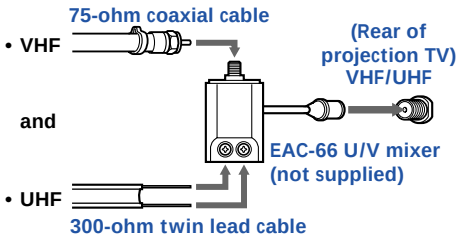


B

- VHF only
  or
- UHF only
  or
- VHF/UHF

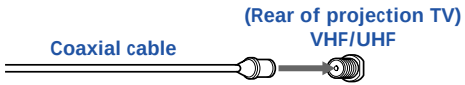


C



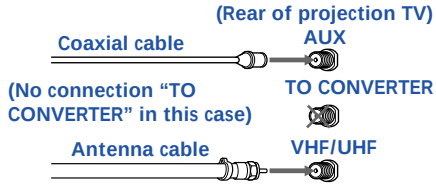
Cable or antenna

This is the simplest connection. Connection is made directly from the cable or antenna to the projection TV.



Cable and antenna

You may find it convenient to use the following set up if your cable provider does not feature local channels that you are able to receive using an antenna.

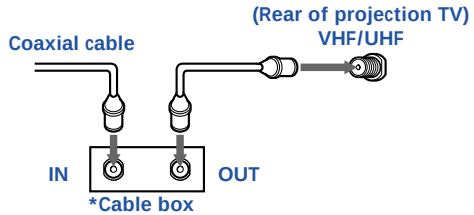


Select Cable or ANT mode by pressing ANT on the remote control.

Connecting a cable box

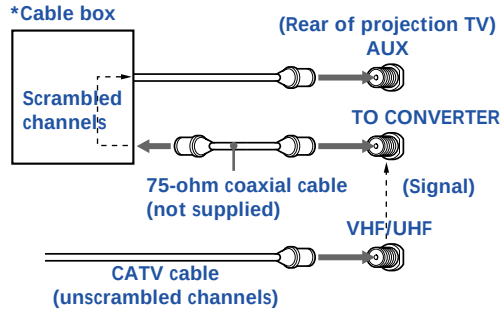
Some pay cable TV systems use scrambled or encoded signals that require a cable box* to view all channels.

Also, set "Cable" to "On" in the Channel Set Up menu (page 31).



Cable box and cable

Some pay cable TV systems use scrambled or encoded signals requiring a cable box* only for certain channels (e.g. HBO, SHOWTIME, etc.)



For this set up, you can switch between scrambled channels (through your cable box), and normal (CATV) channels by pressing ANT on your remote control.

Notes:

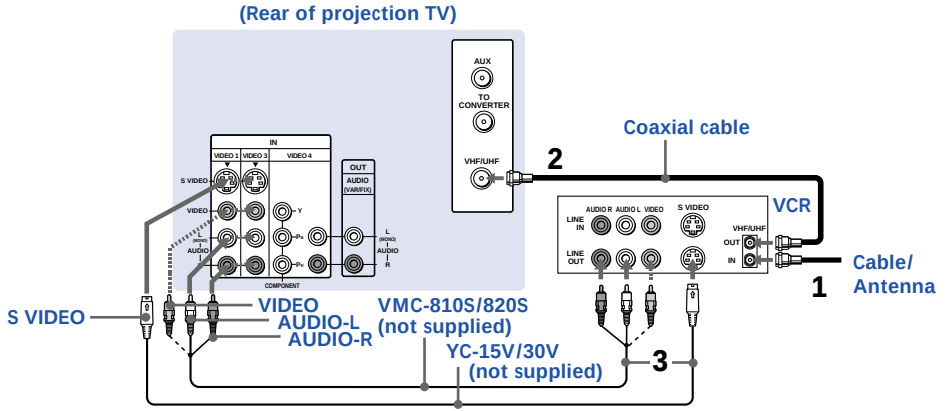
- You may be able to program your Sony remote control to operate your cable box. (see "Operating a Cable Box or Satellite Receiver (SAT)" on page 49)
- During PIP or Favorite Channel viewing, the AUX input can only be viewed in the main picture.
- AUX input cannot be viewed in the PIP windows.

Installing and Connecting the Projection TV (continued)

Disconnect all power sources before making any connections.

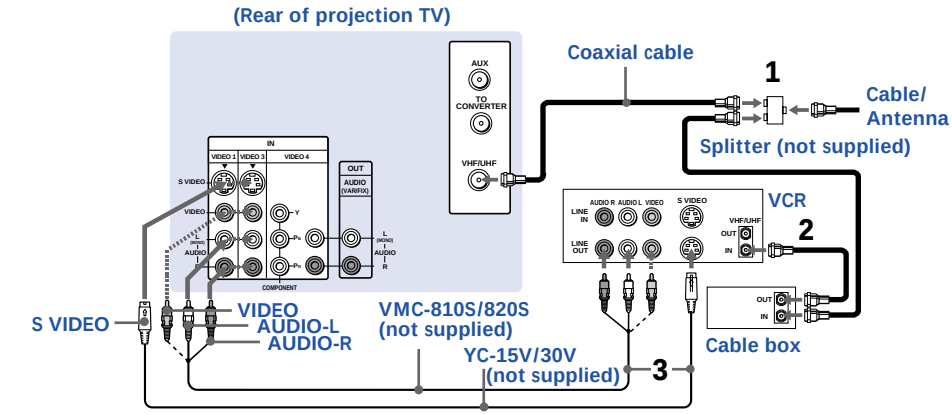
Connecting a cable TV system/ antenna to a VCR

1. Attach the coaxial cable from the incoming cable connection or antenna to VHF/UHF IN on the VCR.
2. Using a coaxial cable, connect VHF/UHF OUT on the VCR to VHF/UHF on the projection TV.
3. Using AUDIO and S VIDEO* cables, connect AUDIO and S VIDEO OUT on the VCR to AUDIO and S VIDEO IN on the projection TV (White-AUDIO Left, Red-AUDIO Right**).



Connecting a VCR and projection TV to a cable box

1. Connect the single (input) jack of the splitter to the incoming cable connection, and connect the other two (output) jacks (using the coaxial cable) to IN on the cable box and VHF/UHF on the projection TV.
2. Using a coaxial cable, connect OUT on the cable box to VHF/UHF IN on the VCR.
3. Using AUDIO and S VIDEO* cables, connect AUDIO and S VIDEO OUT on the VCR to AUDIO and S VIDEO IN on the projection TV (White-AUDIO Left, Red-AUDIO Right**).



Note:

- To view scrambled channels through the cable box, select the video input which the cable box is connected to by pressing TV / VIDEO.

* If your VCR is not equipped with S VIDEO, use a VIDEO cable (yellow) instead of the S VIDEO cable.

** If you are connecting a monaural VCR, connect only the single audio output to the left (MONO) input on the projection TV.

Disconnect all power sources before making any connections.

Connecting a satellite receiver (SAT)

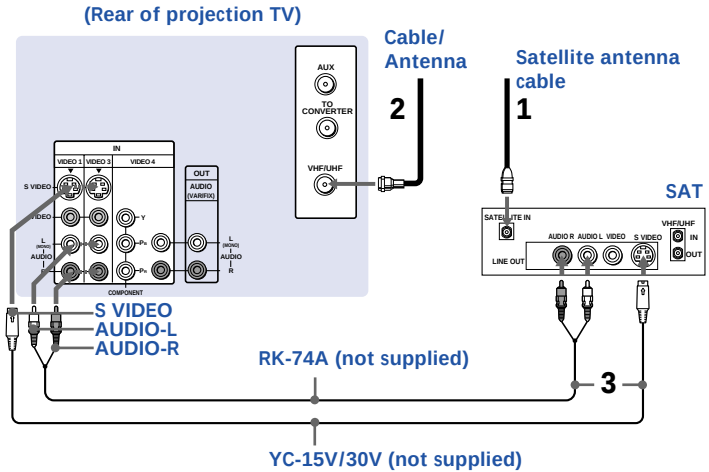
1 Connect the cable from the satellite antenna to the satellite receiver.

2 Attach the coaxial cable from the incoming cable connection or antenna to VHF/UHF on the projection TV.

3 Using AUDIO and S VIDEO cables, connect AUDIO and S VIDEO OUT on the satellite receiver to AUDIO and S VIDEO IN on the projection TV (White-AUDIO Left, Red-AUDIO Right).

Note:

- To view input from the satellite receiver, select the video input which the satellite receiver is connected to by pressing TV/VIDEO on the remote control.



Connecting a satellite receiver (SAT) and a VCR

1 Connect the cable from the satellite antenna to the satellite receiver.

2 Attach the coaxial cable from the incoming cable connection or antenna to VHF/UHF IN on the VCR.

3 Using a coaxial cable, connect VHF/UHF OUT on the VCR to VHF/UHF on the projection TV.

4 Using AUDIO and S VIDEO* cables, connect AUDIO and S VIDEO OUT on the satellite receiver to AUDIO and S VIDEO IN on the VCR.

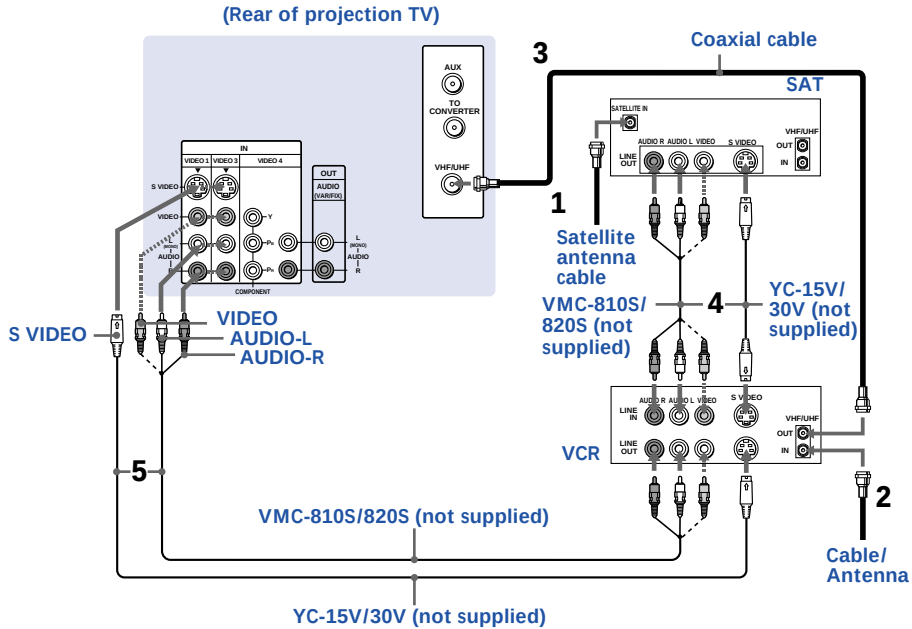
5 Using AUDIO and S VIDEO* cables, connect AUDIO and S VIDEO OUT on the VCR to AUDIO and S VIDEO IN on the projection TV (White-AUDIO Left, Red-AUDIO Right).

* If your VCR is not equipped with S VIDEO, use a VIDEO cable (yellow) instead of the S VIDEO cable.

Note:

- To view input from the satellite receiver or VCR, select the video input which your satellite receiver or VCR is connected to by pressing TV/VIDEO on the remote control.

Disconnect all power sources before making any connections.



Installing and Connecting the Projection TV (continued)

Disconnect all power sources before making any connections.

Connecting a DTV (digital television) receiver

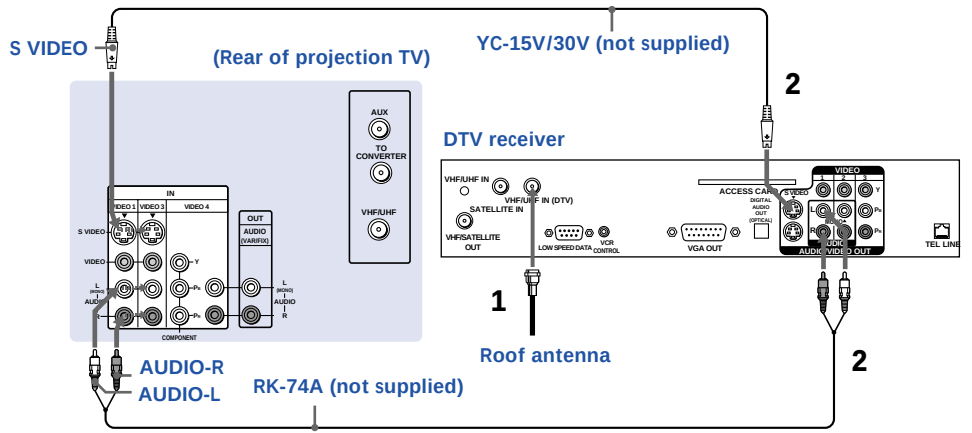
Before connecting, be sure to read the Operating Instructions of the DTV receiver.

1 Attach the coaxial cable from the roof antenna to VHF/UHF IN (DTV) on the DTV receiver.

2 Using AUDIO and S VIDEO cables, connect AUDIO and S VIDEO OUT on the DTV receiver to AUDIO and S VIDEO IN on the projection TV (White-AUDIO Left, Red-AUDIO Right).

Notes:

- Your DTV receiver must be able to support 480i video format output.
- If your DTV receiver supports 480i signal from YPBPR, you can connect Y, PB and PR of VIDEO OUT on the DTV receiver to Y, PB and PR of VIDEO 4 IN on the projection TV using VIDEO cables.



Connecting a camcorder

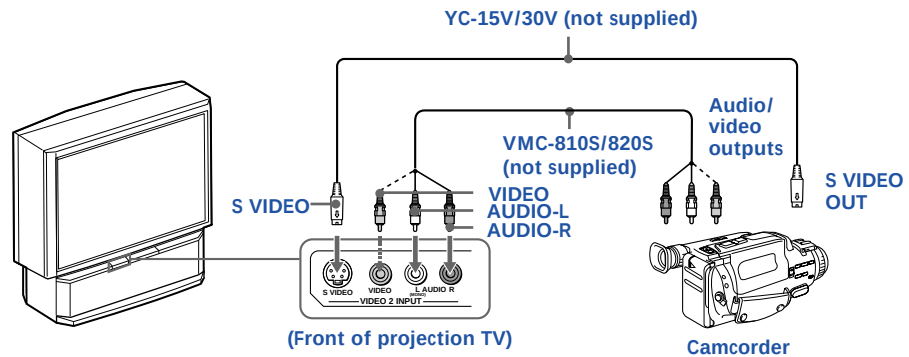
Use this connection to view a picture directly from your camcorder.

1 Using AUDIO and S VIDEO* cables, connect AUDIO and S VIDEO OUT on the camcorder to AUDIO and S VIDEO IN inside the drop-down panel on the front of the projection TV (White-AUDIO Left, Red-AUDIO Right**).

2 Press VIDEO 2 to select the video inputs from a camcorder.

* If your camcorder is not equipped with S VIDEO, use a VIDEO cable (yellow) instead of the S VIDEO cable.

** If you are connecting a monaural camcorder, connect only the single audio output to the left (MONO) input on the projection TV.



Connecting a DVD Player (Upper illustration)

Using an AUDIO and S VIDEO cables, connect AUDIO and S VIDEO IN on the projection TV to AUDIO and S VIDEO OUT on the DVD Player (White-AUDIO Left, Red-AUDIO Right).

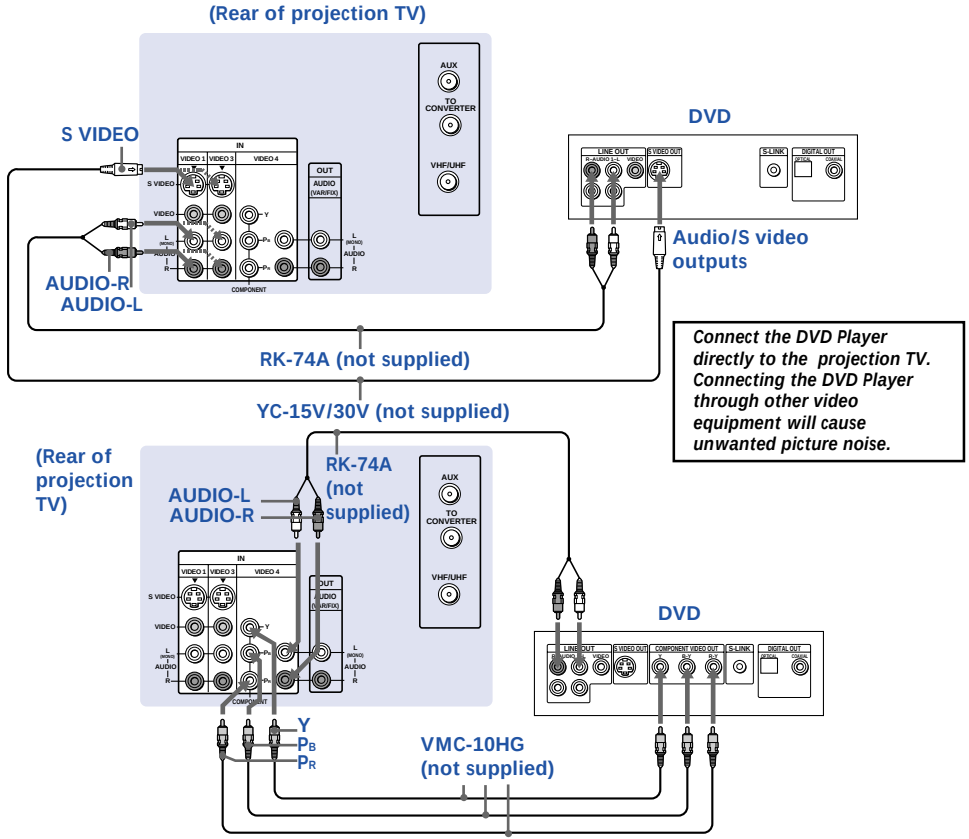
Connecting a DVD Player with component video output connectors (Lower illustration)

1. Using an AUDIO cable, connect AUDIO of LINE OUT on the DVD Player to AUDIO of VIDEO 4 IN on the projection TV (White-AUDIO Left, Red-AUDIO Right).
2. Using three yellow VIDEO cables, connect Y, P_B, and P_R of COMPONENT VIDEO OUT on the DVD Player to Y, P_B, and P_R of VIDEO 4 IN on the projection TV.

Notes:

- Since the high quality pictures on a DVD disc contain a lot of information, picture noise may appear. In this case, adjust “Noise Reduction” in the Video menu. (see “Noise Reduction” on page 26)
- Some DVD Player terminals may be labeled differently. If so, connect as follows:
  Connect Y (green) to Y.
  Connect P_B (blue) to C_B, Cb or B-Y.
  Connect P_R (red) to C_R, Cr or R-Y.
- This projection TV does not support progressive scan DVD players output. Please use the interlaced output.

Disconnect all power sources before making any connections.



Connecting an audio system

For more dynamic sound, connect an audio system to the projection TV.

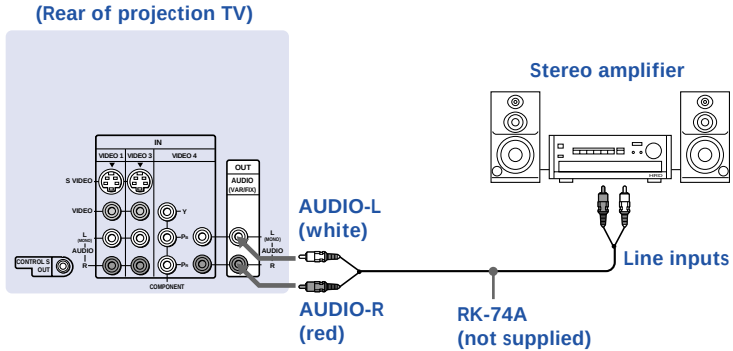
1 Using an AUDIO cable, connect AUDIO (VAR/FIX) OUT on the projection TV to one of the unused Line inputs (e.g. Tape-2, AUX1, etc.) on the stereo.

2 Set the stereo to the chosen Line input and use the Audio menu to set the audio output and switch the TV's speakers off. (see "Audio Out" and "Speaker" on page 28)

Note:

- You can adjust VOLUME, "Bass," "Treble," "Balance," "MTS/SAP" and "Effect" with the supplied remote control. The control items except VOLUME can be adjusted only when "Audio Out" is set to "Variable" in the Audio menu. (see "Audio Out" on page 28)

Disconnect all power sources before making any connections.



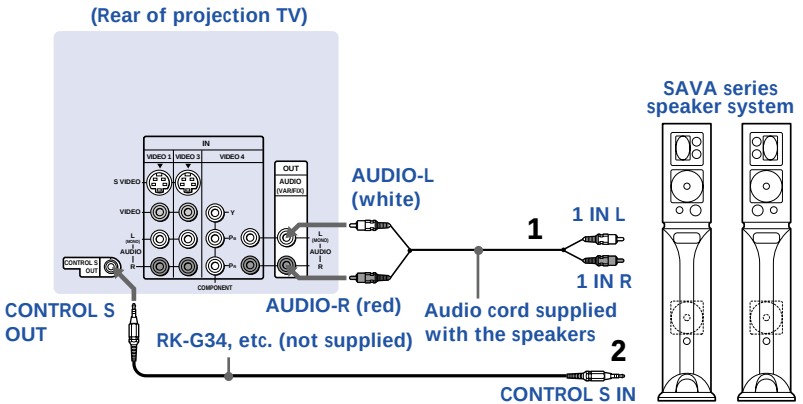
Connecting a Sony SAVA series speaker system

Use this connection to control the speaker's Dolby* Pro Logic surround system and super woofer mode with the remote control. (see "SAVA SP Control" on page 28)

1 Using the AUDIO cable supplied with the speaker to AUDIO (VAR/FIX) OUT on the projection TV.

2 Using the CONTROL S cable, connect CONTROL S IN on the speaker to CONTROL S OUT on the projection TV.

Disconnect all power sources before making any connections.

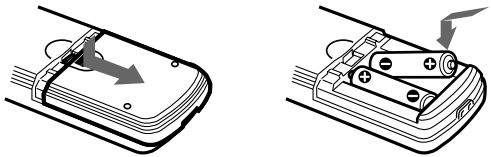


* Manufactured under license from Dolby Laboratories.
"Dolby", "Pro Logic", and the double-D symbol are trademarks of Dolby Laboratories.
Confidential unpublished works. ©1992-1997 Dolby Laboratories. All rights reserved.

Using the Remote Control

Inserting the batteries

Insert two size AA (R6) batteries (supplied) by matching the + and – on the batteries to the diagram inside the remote control's battery compartment.



Notes:

- Remove the batteries to avoid damage from possible battery leakage whenever you anticipate that the remote control will not be used for an extended period.
- Handle the remote control with care. Avoid dropping it, getting it wet, or placing it in direct sunlight, near a heater or where the humidity is high.
- Your remote control can be programmed to operate most video equipment. (see "Operating Video Equipment" on page 47)

Setting Up the Projection TV Automatically

The AUTO SET UP feature will allow you to set the on-screen language and set all receivable channels.

The AUTO SET UP feature does not apply for installations that use a cable box for all channel selection.

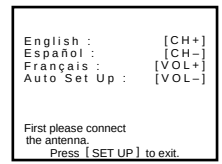
You can also set up the projection TV manually. (see "Using the Channel Set Up menu" on pages 30 and 31)

Notes:

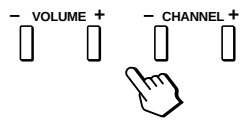
- Before you perform AUTO SET UP again, make sure that the input from ANT (not AUX) is selected by pressing ANT until "AUX" does not appear next to the channel number.
- Perform this function during the day, with the antenna and / or cable properly connected, to ensure that all available channels will be broadcasting and receivable.
- When you perform AUTO SET UP, all the settings in the Video, and Audio menus are reset to the factory settings.

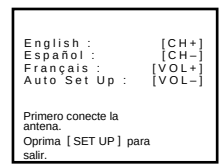
Using the buttons on the front panel of the projection TV:

1 Press POWER to turn on the projection TV.
Press SET UP inside the drop-down panel on the projection TV and the AUTO SET UP screen appears.

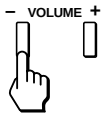


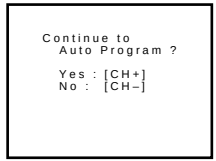
2 Press CHANNEL + to select English, CHANNEL – to select Español or VOLUME + to select Français.
The screen will change to reflect your choice.



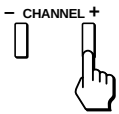


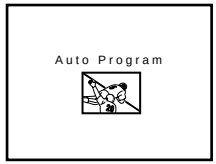
3 Press VOLUME – to continue.





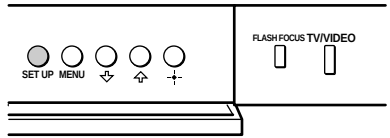
4 Press CHANNEL + to preset channels automatically.





"Auto Program" appears and the projection TV starts scanning and presetting channels automatically. While scanning, the received channel will be displayed on the sub screen. When all the receivable channels are stored, the lowest numbered channel is displayed.

To perform AUTO SET UP again



Press SET UP inside the drop-down panel on the projection TV and perform steps 2-4 above.

Press SET UP again to exit.

Adjusting the Convergence Automatically (FLASH FOCUS)

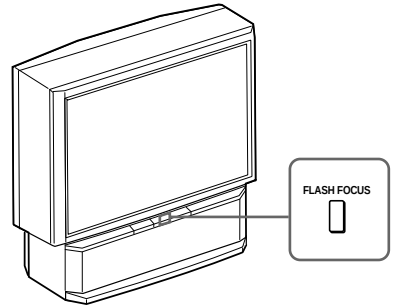
The projection tube image appears on the screen in three layers (red, green and blue). If they do not converge, the color is poor and the picture blurs.

Before you use your projection TV, be sure to adjust the convergence.

The FLASH FOCUS feature allows you to adjust the convergence automatically.

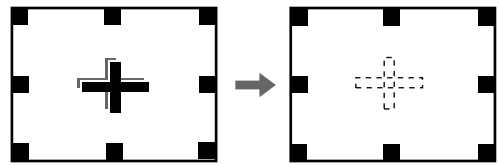
Tips

- *It is recommended to perform FLASH FOCUS about 30 minutes after the projection TV is first turned on.*
- *You can also perform FLASH FOCUS using the Set Up menu on page 35.*



Press FLASH FOCUS.

The cross pattern appears and FLASH FOCUS begins to work. The adjustment is completed when the cross pattern becomes white.



Note:

- FLASH FOCUS is canceled if you perform any other function while FLASH FOCUS is working.

Watching the TV

Many TV features can be accessed directly through the remote control. The following chart will explain the function of some buttons found on your remote control.

Using the White Labeled Buttons for Projection TV Operations	
TV (FUNCTION)	Activates the remote control for use with the projection TV.
TV POWER	Turns the projection TV on and off. If a video input indication (e.g., VIDEO 1, VIDEO 2) appears on the screen, press TV/VIDEO until a channel number appears.
0 - 9 and ENTER	Use for direct channel selection. Press 0-9 to select a channel (for example, to select channel 10, press 1 and 0). The channel will change after 2 seconds, or you can press ENTER for immediate selection.
CH +/–	Press to scan through the channels (+ up or – down). **Speed Surf** **1** Press and hold CH + or – to change the channel number rapidly. **2** Release to display the desired channel.
VOL +/–	Press to adjust the volume (+ up or – down).
MUTING	Press to mute the sound. “Muting” will appear on the screen and will dim three seconds later. To restore sound, press again or press VOL +.

PICTURE MODE

Press PICTURE MODE repeatedly to directly choose one of five different video modes that best suits the program you are watching.

Vivid: Select for enhanced picture contrast and sharpness.

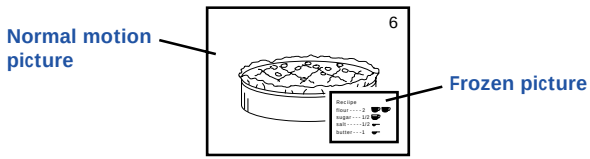
Standard: Select to display a standard picture for normal viewing environments.

Movie: Select to display a finely detailed picture for low light environments.

Personal 1, Personal 2: Select to customize the “Picture Adjustment” of the Video menu according to your personal preference.

When you select “Vivid” and “Standard,” all video control settings are fixed.
When you select “Movie,” “Personal 1” and “Personal 2,” you can also perform the “Picture Adjustment” (such as “Brightness,” “Color,” etc.) to suit your taste. For details, see “Mode” on page 26.

Using the White Labeled Buttons for Projection TV Operations

TV/VIDEO	Press repeatedly to scroll through available video inputs: **TV, VIDEO 1, VIDEO 2, VIDEO 3** and **VIDEO 4.** If you select “Skip” as a “Video Label” in the Set Up menu, your projection TV will skip the video input you selected. (see “Video Label” on page 35)
JUMP	Press to alternate or *jump* back and forth between two channels. The projection TV will jump between the current channel and the last channel selected using the 0-9 buttons.
FREEZE *(yellow labeled button)*	This is useful when you need to copy down information that appears on the TV’s screen. Press to *freeze* the desired picture. The frozen picture is displayed in the window picture while viewing the normal picture of the current channel in the main picture.  To change the location of the window picture, press ↑, ↓, ← or →. Press FREEZE again to display the normal picture.
DISPLAY	Press to display the channel number, current time, channel caption (if set), and MTS/SAP mode (if SAP is selected). The SAP indication disappears and the other indications dim three seconds later. To turn the display off, press DISPLAY again.

(continued)

REFER TO THE ILLUSTRATION OF THE REMOTE CONTROL ON THE INSIDE FRONT COVER OF THIS MANUAL AS YOU REVIEW THIS CHART

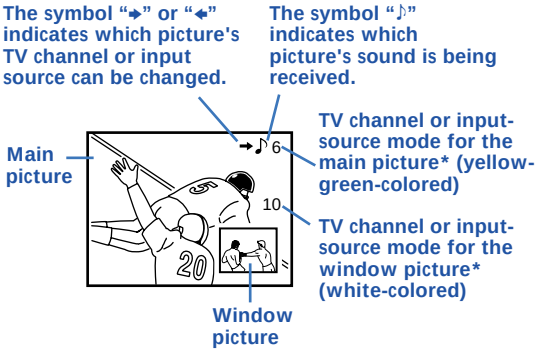
Using the White Labeled Buttons for Projection TV Operations	
CC	Press repeatedly to scroll through available displays: **XDS (Extended Data Service)** Displays a network name, program name, program type, program length, program description, call letters and time of the show if the broadcaster offers this service. **Caption Vision** Displayed on the screen if the broadcaster offers this service. (see "Caption Vision" on page 34) **No display** "Off" appears and the display is canceled.
SLEEP	Press repeatedly until the projection TV displays the approximate time in minutes (30, 60, or 90) that you want the projection TV to remain on before shutting off automatically. Cancel by pressing until "Sleep Off" appears.
ANT *(AUX input)*	Press to change between the VHF/UHF input and the AUX input. (for detailed connection information, see "Cable and antenna" or "Cable box and cable" on page 9) Note: You cannot view this input in PIP mode.
MTS/SAP	Press to scroll through the Multi-channel TV Sound (MTS) options: **Stereo, SAP, Mono** and **Auto SAP.** (see "MTS/SAP" on page 27)
♪	Press to select an audio option: **Simulated, Surround, BBE** and **Effect Off.** (see "Effect" on page 27)
TV/VTR	Press when you are finished using a VCR and you want to switch to the TV input. The VCR power will remain on.
SYSTEM OFF	Press to turn off the projection TV and all other Sony equipment.

REFER TO THE ILLUSTRATION OF THE REMOTE CONTROL ON THE INSIDE FRONT COVER OF THIS MANUAL AS YOU REVIEW THIS CHART

Watching Two Programs at One Time — PIP

The Picture-in-Picture (PIP) feature allows you to view two channels simultaneously, one in the full size “main” picture and one in a smaller “window” picture.

You can move the window picture to any location on the screen. (Free Layout Picture-in Picture)


The symbol “➔” or “➔” indicates which picture's TV channel or input source can be changed.
The symbol “♪” indicates which picture's sound is being received.
Main picture
TV channel or input-source mode for the main picture* (yellow-green-colored)
TV channel or input-source mode for the window picture* (white-colored)
Window picture
6
10

* It will dim in about 3 seconds:

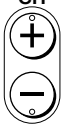
Notes:

- The aux antenna input on the rear panel will not be able to be selected in the PIP window.
- If you use a cable box connection, you will not be able to watch two different programs at the same time.

Using the Yellow Labeled Buttons for PIP Operations	
PIP	Press to display a window picture. Each time you press this button, the picture size will change (1/9 →1/16 →no display). To close the window picture, press PIP repeatedly until it disappears.
POSITION or	Press POSITION repeatedly to change the location of the window picture (counterclockwise) around the main picture. You can also change the location by pressing the ↑, ↓, ← or → button. The window picture moves in the direction of the arrow indicated on the pressed button.
ACTIVE	Press to select either the main or window picture in order to change the TV channel or video source using the white labeled buttons below. The symbol “➔” (or “➔”) will appear to indicate which picture’s channel or input mode can be changed.
TV/VIDEO *(white labeled button)*	Press repeatedly to scroll through the available video inputs for the picture on which the symbol “➔” (or “➔”) is displayed. (see “TV/VIDEO” on page 21)

Tip

If you press RESET in PIP mode, the window picture will move to the bottom right (factory-preset location).

Using the Yellow Labeled Buttons for PIP Operations	
CH  or 0 - 9 or JUMP and ENTER *(white labeled button)*	Press to select the TV channel on which the symbol "➔" is displayed. (for details, see "Watching the TV" on page 20) **Speed Surf** **1** Press and hold CH + or – to change the channel number rapidly. **2** Release to display the desired channel.
ANT *(white labeled button)*	Press to change between the VHF/UHF input and the AUX input for the picture on which the symbol "➔" (or "➔") is displayed.
AUDIO	Press to alternate sound between the main picture and the window picture. The symbol "♪" will appear for a few seconds to indicate which picture's sound is being received.
FREEZE	This is useful when you need to copy down information of the main picture. Press to freeze the desired scene in the main picture. The frozen picture is displayed in the window picture while viewing the normal picture in the main picture. The window picture size is automatically changed to 1/9 if it was 1/16. Press again to resume normal PIP viewing.
SWAP	Press to switch the audio and video of the main picture and the window picture. Each time you press SWAP, the picture and sound of the two will be exchanged.

REFER TO THE ILLUSTRATION OF THE REMOTE CONTROL ON THE INSIDE FRONT COVER OF THIS MANUAL AS YOU REVIEW THIS CHART

Note:

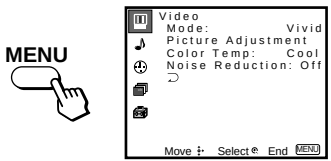
- If one of the pictures received through PIP is snowy, the entire screen may become unstable. In this case, erase the snowy channel. (see "Channel Skip / Add" on page 31)

Learning Menu Selection

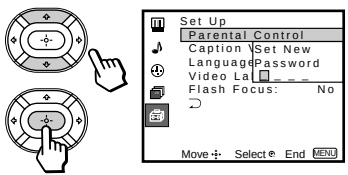
Use the MENU button to access a menu and use the ↑, ↓, ←, → and ⊕ buttons to alter the settings. Use the following example to learn how to modify settings.

1 Press the MENU button.

The main menu appears.

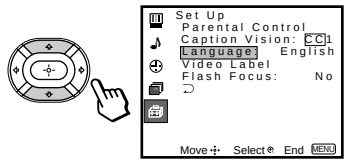


2 Press ↑ or ↓ to highlight the desired menu and press ⊕ to activate it.



You may also press → to activate your selection.

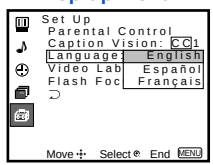
3 Press ↑ or ↓ to highlight the desired option.



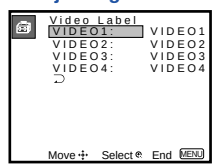
4 Press ⊕.

Options for your selection (Pop-up menu or Adjusting menu) will be displayed.

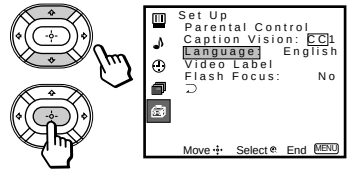
Pop-up menu



Adjusting menu



5 Press ↑ or ↓ to make your selection and press ⊕ to activate it.
The previous screen will reappear.



Some adjustment menus may require further operations. For details, see each menu option.

To return to the previous screen (except for the slider adjustment menus), choose "⮌" at the bottom of the menu and press ⊕ or ←.

6 Once you have completed all menu corrections, press MENU to exit the menu screens.

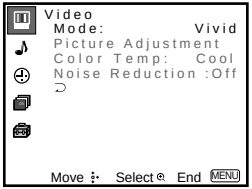
To exit from the menus at any time

Press MENU.

Tip

You can also use the MENU, ↑/↓ and ⊕ buttons inside the front drop-down panel of the projection TV for the menu selection.

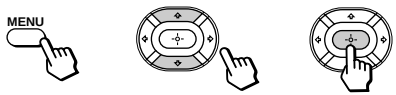
Using the Video Menu



For detailed information on using the remote control to modify menu settings, refer to “Learning Menu Selection” on page 25.

To select the Video menu:

Display → Highlight → Select

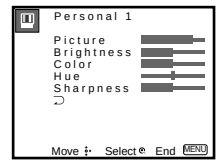


To restore the factory settings

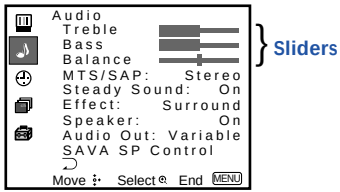
Press RESET on the remote control while the Video menu is selected. To restore each “Mode” to the factory setting, press RESET after selecting the mode to be reset.

Note:

“Picture Adjustment,“ “Color Temp“ and “Noise Reduction“ can only be changed in “Movie,“ “Personal 1“ and “Personal 2“.

Mode *Customized picture viewing*	You can choose one of five different video modes that best suits the program you are watching. You can also perform the “Picture Adjustment” (such as “Brightness,” “Color,” etc.) for “Movie,” “Personal 1” or “Personal 2” to suit your taste. **Vivid:** Select for enhanced picture contrast and sharpness. **Standard:** Select to display a standard picture for normal viewing environments. **Movie:** Select to display a finely detailed picture for low light environments. **Personal 1, Personal 2:** Select to customize the “Picture Adjustment” of the Video menu according to your personal preference. *Press PICTURE MODE on the remote control for direct selection of a “Mode” setting.*
Picture Adjustment *Picture adjustment*	First select “Movie,” “Personal 1” or “Personal 2” from “Mode,” then highlight the desired option using the ▲ or ▼ button and press ⊕ to display the adjusting slider of the selected option. **Picture:** Adjust slider right (up) to increase picture contrast; left (down) to decrease it. **Brightness:** Adjust slider right (up) to brighten the picture; left (down) to darken it. **Color:** Adjust slider right (up) to increase color intensity; left (down) to decrease it. **Hue:** Adjust slider right (up) to increase the green tones; left (down) to increase the red tones. **Sharpness:** Adjust slider right (up) to sharpen the picture; left (down) to soften it. 
Color Temp *White intensity adjustment*	**Cool:** Select to give the white colors a blueish tint. **Neutral:** Select to give the white colors a neutral tint. **Warm:** Select to give the white colors a reddish tint.
Noise Reduction *Noise reduction*	Select **On** to reduce picture noise. Select **Off** to cancel the feature. *“Noise Reduction” can be set separately from the “Mode” settings of the Video menu.*

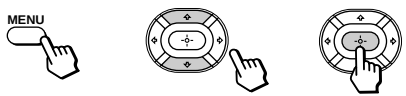
♪ Using the Audio Menu



For detailed information on using the remote control to modify menu settings, refer to “Learning Menu Selection” on page 25.

To select the Audio ♪ menu:

Display → Highlight ♪ → Select



To restore the factory settings

Press RESET on the remote control while the Audio menu is selected.

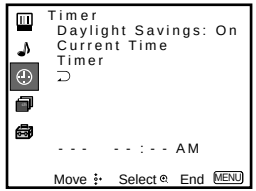
* The BBE is manufactured by Sony Corporation under license from BBE Sound, Inc. It is covered by U.S. Patent No. 4,638,258 and No. 4,482,866. The word “BBE” and the BBE symbol are the trademarks of BBE Sound, Inc.

Treble *Sound adjustment*	Adjust slider right (up) to increase high pitched sounds. Adjust slider left (down) to decrease high pitched sounds.
Bass *Sound adjustment*	Adjust slider right (up) to increase low pitched sounds. Adjust slider left (down) to decrease low pitched sounds.
Balance *Sound adjustment*	Adjust slider right (up) to emphasize right speaker volume. Adjust slider left (down) to emphasize left speaker volume.
MTS/SAP *Enjoy stereo, bilingual and mono programs.*	When the sound is intermittent due to poor reception conditions, select “Stereo” or “SAP.” **Stereo:** Select for stereo reception when viewing a program broadcast in stereo. **SAP:** Select to listen to a bilingual broadcast. (non-SAP programs will be muted when this feature is selected) **Mono:** Select for mono reception. (use to reduce noise during stereo broadcasts) **Auto SAP:** Select to listen to SAP when a SAP program is broadcast and return to stereo reception automatically for non-SAP programs. ***Quick MTS access:*** *Press* MTS/SAP *on the remote control to cycle through the “MTS/SAP” options as follows: Stereo → SAP → Mono → Auto SAP.*
Steady Sound *Adjust the sound level.*	**On:** Sound output coming from TV speakers have the volume level equalized for all channel audio inputs when broadcasts have different sound transmission levels. **Off:** Sound output coming from the TV speakers varies according to the received channel.
Effect *Customizes surround sound effects based on the program’s audio type.*	“Effect” can only be set when “Speaker” is set to “On” or “Off.” **Simulated:** Adds a surround-like effect to mono programs. **Surround:** Simulates sound with the atmosphere of a movie theater or a concert hall for stereo programs. **BBE*:** Centers the sound intensity to the front, creating an effect as if you were seated in front of an orchestra. **Off:** Normal stereo or mono reception. ***Quick Effect access:*** *Press ♪ on the remote control to cycle through the “Effect” options as follows: Simulated → Surround → BBE → Effect Off.*

(continued)

Speaker *Custom selection of audio output source*	**On:** Select to listen to the sound from the projection TV speakers alone. **Off:** Select to turn off the projection TV speakers and listen to the projection TV's sound only through an external audio system's speakers. See "Connecting an audio system" on page 16. **SAVA SP:** Select to turn off the projection TV speakers and listen to the projection TV's sound only through the Sony SAVA series speaker system. You can adjust volume, muting, "Surround Mode," and "Super Woofer Mode" with the projection TV's remote control. (see "SAVA SP Control" below) See "Connecting a Sony SAVA series speaker system" on page 17.
Audio Out *Easy control of volume adjustment*	"Audio Out" can only be set when "Speaker" is set to "Off." **Fixed:** Sound output is held at a fixed level through the audio system. Use the AV receiver's remote control to adjust the volume. **Variable:** Sound output varies according to the TV settings. Useful when you want to use your remote control to control the output of a separate audio system.
SAVA SP Control *Controls Sony SAVA speaker's mode.*	"SAVA SP Control" can only be set when Sony SAVA speaker system is connected to the AUDIO (VAR/FIX) OUT connectors and "Speaker" is set to "SAVA SP." (see "Speaker" above) You can also adjust the SAVA speaker's volume using VOL +/– of the projection TV's remote control. **Surround Mode:** Select to activate the SAVA Speaker's surround mode. **Super Woofer Mode:** Select to activate the SAVA Speaker's super woofer mode.

Using the Timer Menu

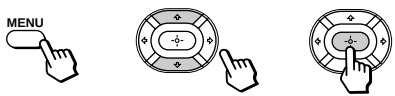


After setting the clock you can use the timer to turn the projection TV on and off.

For detailed information on using the remote control to modify menu settings, refer to “Learning Menu Selection” on page 25.

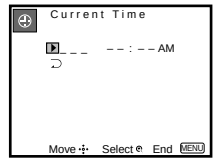
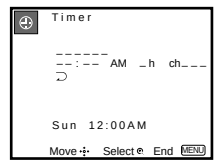
To select the Timer menu:

Display → Highlight → Select

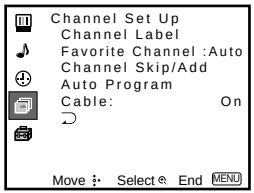


Tip

Set daylight saving time before setting the clock. Any loss of power will cause these settings to be erased.

Daylight Savings *Automatically adjusts the time.*	**Spring:** Select **On** to compensate for Daylight Saving Time. The current time automatically moves ahead one hour. **Fall:** Select **Off** at the end of Daylight Saving Time. The current time moves back one hour.
Current Time *Necessary for the Timer.*	**1** Press ⊕, then press ▲ or ▼ until the current day (Sun-Sat) is displayed, and press ⊕. **2** Press ▲ or ▼ until the current hour (1-12) and AM/PM is displayed, and press ⊕. **3** Press ▲ or ▼ until the current minute (00-59) is displayed, and press ⊕. The clock has now started. Press MENU to exit. 
Timer *Wake up or scheduled viewing.*	**1** Press ▲ or ▼ until the desired day or range of days (Every Sun-Sat, Every Mon-Fri, Sunday, Monday, ... Saturday, Every Sunday, ... Every Saturday) is displayed, and press ⊕. **2** Press ▲ or ▼ until the time (hours and minutes) that you want the projection TV to remain on is displayed, and then press ⊕. **3** Press ▲ or ▼ to set the time duration (maximum of 6 hours) and press ⊕. **4** Press ▲ or ▼ to select the desired channel and press ⊕. The timer is now set. The TIMER/STAND BY indicator on your projection TV will be lit. Press MENU to exit. To cancel your timer setting, press RESET while in the Timer window. Performing Auto Program will erase all Timer settings. 

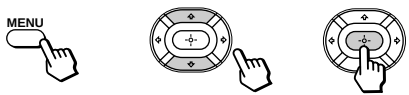
Using the Channel Set Up Menu

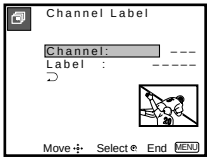


For detailed information on using the remote control to modify menu settings, refer to “Learning Menu Selection” on page 25.

To select the Channel Set Up menu:

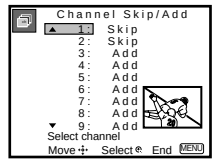
Display → Highlight → Select



Channel Label *Easy recognition of the channel you are watching*	You can add a caption for up to 32 channels of VHF/ UHF input. With the Channel Label window open: **1** Press ⊕ and then press ↑ or ↓ to select the desired channel. You can view the channel that is selected with the Channel Label menu in the sub screen. **2** Press ⊕. **3** Press ↑ or ↓ to display the first letter or number of the label and press ⊕ to select it. Repeat until up to five digits are selected. **4** Press ⊕. *To erase a label, press RESET.* 
Favorite Channel *User’s favorite channels*	The Favorite Channel feature enables easy access to the eight channels that you preset (or the last channel that you were watching). (for details on how to set up this feature, see “Setting and Selecting Favorite Channel” on page 32)

Note:

“Favorite Channel“ will not function with AUX input.

Channel Skip/Add *Skips unnecessary channels.*	After AUTO SET UP, you can erase unnecessary channels from the channel preset memory. With the Channel Skip/Add window open: **1** Press ↑ or ↓ to select the desired channel. You can view the channel that is selected with the Channel Skip/Add menu in the sub screen. You can also use CH +/– or 0–9 and ENTER buttons. **2** Press ⊕. **3** Press ↑ or ↓ to select **Skip**, and press ⊕. The selected channel will be erased. If you want to re-enter the skipped channel, follow the steps above and select **Add**. 
Auto Program *Automatic channel presetting*	Select **Yes** to signal the projection TV to automatically program all receivable channels. When all the receivable channels are stored, the lowest numbered channel is displayed. Select **No** to cancel Auto Program.
Cable *Cable system setting*	Select **On** if your projection TV is connected to a cable system. Select **Off** if your projection TV is connected to an antenna.

Setting and Selecting Favorite Channel

The Favorite Channel feature of your projection TV enables easy access to the eight channels that you preset (or the last channel that you were watching).

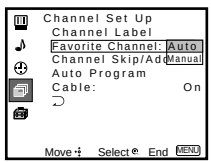
Your Favorite Channel options can be set automatically or manually.

The factory setting for “Favorite Channel” is “Auto.”

When “Favorite Channel” is set to “Auto,” the last eight channels selected with the 0–9 buttons will be set as Favorite Channel options. If you want to input your own selections as Favorite Channel settings, set to “Manual.”

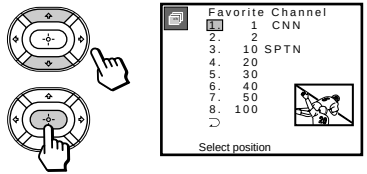
Setting Favorite Channel manually

1 Select “Favorite Channel” from the Channel Set Up menu. (see page 30)

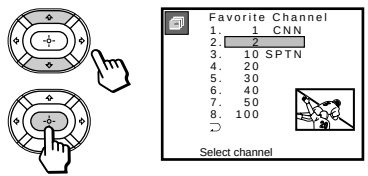


2 Press ↑ or ↓ to select “Manual” and press ⊕.

The Favorite Channel menu will appear. If you set Channel Label names (e.g. CNN, HBO), they will also be displayed. (see “Channel Label” on page 30)

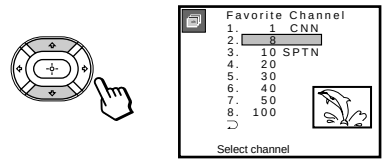


3 Press ↑ or ↓ to select a position (1–8), and press ⊕.



4 Press ↑ or ↓ to select a channel and press ⊕.

You have now selected a favorite channel.



5 Use ↑ and ↓ to program other favorite channels. (Follow steps 3 and 4.)

6 Press MENU when you have finished.

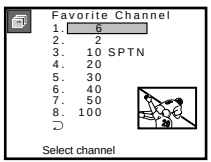
Your favorite channels are now ready for use.

Changing Favorite Channel choices

You have the option of returning to the Favorite Channel screen to adjust any of your favorite channel choices.

Simply proceed as described in “Setting Favorite Channel manually” (skip step 2 if “Manual” is already selected).

When you reach step 3, select the position you want to change and press ⊕. Press ↑ or ↓ to select a new channel.



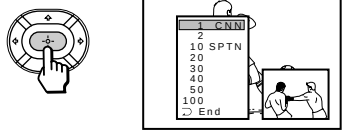
Press MENU when you are done.

Using Favorite Channel

You can use the Favorite Channel feature to directly select the channel you want to watch.

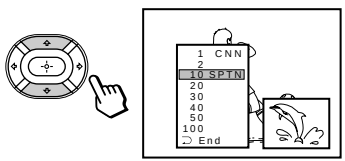
1 Press ⊕ once.

The favorite channel menu and a window picture will be superimposed over the current channel. The window picture displays the channel selected from the menu.



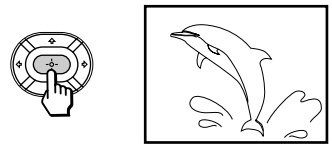
2 Press ↑ or ↓ to select the channel that you wish to view from the menu.

The picture of the selected channel will be displayed in the window picture.



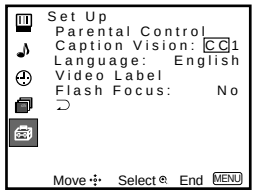
3 Press ⊕ to select the channel.

The selected channel will be displayed for normal viewing.



To cancel the favorite channel menu before selecting a channel, press ↑ or ↓ to select “End” at the bottom of the menu and press ⊕.

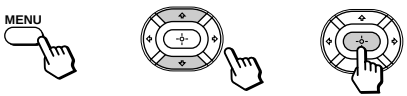
Using the Set Up Menu

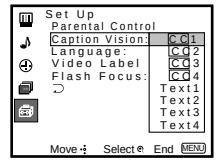


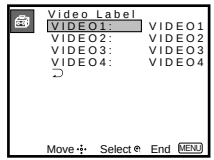
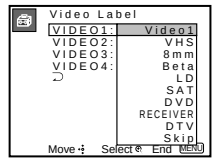
For detailed information on using the remote control to modify menu settings, refer to “Learning Menu Selection” on page 25.

To select the Set Up menu:

Display → Highlight → Select



Parental Control *Blocks programs unsuitable for children.*	Allows you to block TV programs that you feel are unsuitable for your children. (see “Using the Parental Control Feature” on page 36 for details)
Caption Vision *Television closed caption display*	Some programs are broadcast with Caption Vision. To display “Caption Vision,” select CC1, CC2, CC3, CC4, TEXT1, TEXT2, TEXT3 or TEXT4 from the menu. Then press the CC button until “Caption Vision” is displayed. CC1, CC2, CC3 or CC4 displays a printed version of the dialogue or sound effects of a program. (The mode should be set to CC1 for most programs.) TEXT1, TEXT2, TEXT3, or TEXT4 displays network/station information presented using either half or the whole screen.  **Notes:** • Poor reception of TV programs can cause errors in Caption Vision and XDS. Captions may appear with a white box or other errors instead of the intended text. • XDS, Caption Vision, and the status display cannot be used at the same time.
Language *Preferred language*	Select from available languages (**English, Español** or **Français**) to display all menus in your language of choice.

Video Label *Easy recognition of connected equipment (e.g. SAT, VHS, etc.)*	This feature allows you to label each input mode so that you can easily identify the connected equipment (e.g. you can label VIDEO 1 IN as VHS).  With the Video Label window open: **1** Press ▲ or ▼ to select the input mode you want to label and press ⊹. **2** Press ▲ or ▼ to select the label and press ⊹.  **Video Label Options:** **VIDEO 1**: VIDEO 1, VHS, 8mm, Beta, LD, SAT, DVD, RECEIVER, DTV, Skip **VIDEO 2/3**: VIDEO 2/VIDEO 3, VHS, 8mm, Beta, LD, SAT, DVD, DTV, Skip **VIDEO 4**: VIDEO 4, SAT, DVD, RECEIVER, DTV, Skip *If you select "Skip," your projection TV will skip this connection when you scan through video sources using the TV/VIDEO button.*
Flash Focus *Automatic convergence adjustment*	Select **Yes** and press ⊹ to start Flash Focus adjustment. When the adjustment is completed, the cross pattern on the screen becomes white. (for details, see page 19) Select **No** to cancel Flash Focus.

Using the Parental Control Feature

The TV programs and movies shown on TV are given a rating signal based on the following rating systems.

In U.S.A.: U.S. Television Parental Guidelines to rate television programs (U.S. TV ratings), and Motion Picture Association of America (MPAA) Guidelines to rate movies including those shown on TV (movie ratings)

In Canada: Canadian English Language ratings to rate television programs in English, and Canadian French Language ratings to rate those in French.

To block programs you feel are unsuitable for your children, you need to set the TV for the desired rating systems. Sony's predetermined ratings are also available.

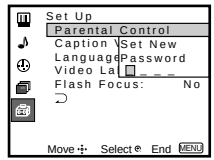
See pages 43 to 45 for a description of the ratings.

The Parental Control feature of the TV functions by receiving the rating signal from your local broadcasting station or cable service provider.

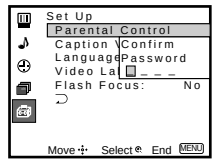
Activating the Parental Control Feature

First, set a password, then select your desired rating from Sony's predetermined ratings.

1 Select "Parental Control" from the Set Up menu. (see page 34)



2 Enter a four digit password* using the 0–9 buttons.

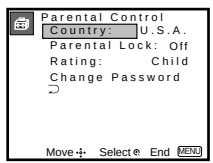


* Do not enter "4357" corresponding to "HELP" on a phone number pad. (see page 43)

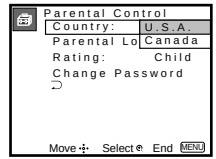
3 To confirm the password, re-enter the same password with the 0–9 buttons.

Your password is stored and the Parental Control menu automatically appears.

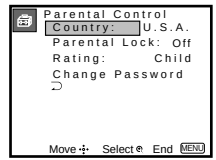
If you want to change the password, see page 42.



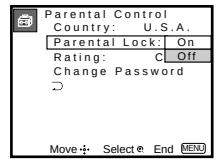
4 Make sure that "Country "is highlighted, and press ⊕.



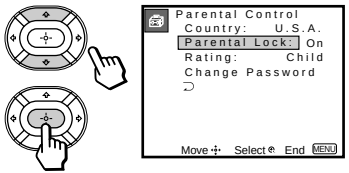
5 Press ↑ or ↓ to select your country (U.S.A. or Canada), and press ⊕.



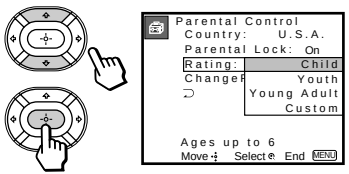
6 Press ↑ or ↓ to select "Parental Lock," and press ⊕.



7 Press ↑ or ↓ to select “On,” and press ⊹.



8 Press ↑ or ↓ to select “Rating,” and press ⊹.



9 Press ↑ or ↓ to select a desired rating (“Child,” “Youth” and “Young Adult”), and press ⊹.

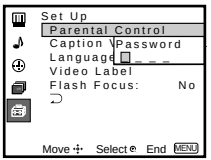
If you want to select the ratings from “Custom,” go to step 4 of “Selecting a Custom Rating in U.S.A.” on page 38 or “Selecting a Custom Rating in Canada” on page 41, according to your “Country” setting.

10 Press MENU to exit the menu.

To deactivate the Parental Control feature

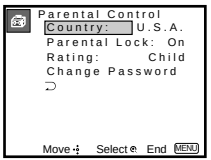
If you set “Parental Lock” in the Parental Control menu to “Off,” the Parental Control feature will not work and you can view all TV programs and movies shown on TV.

1 Select “Parental Control” from the Set Up menu. (see page 34)

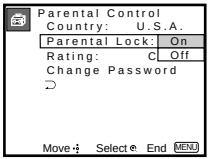


2 Enter your four digit password using the 0-9 buttons.

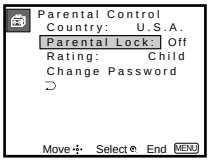
The Parental Control menu appears.



3 Press ↑ or ↓ to select “Parental Lock,” and press ⊹.



4 Press ↑ or ↓ to select “Off,” and press ⊹.



5 Press MENU to exit the menu.

To unlock the Parental Control feature temporarily

When you select a Parental Control program, no sound or picture except for a channel number will appear. The 🔒 indicator is displayed. To view the program, follow the steps below.

1 Press ENTER to display the “Password” screen.

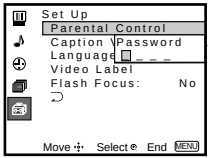
2 Enter your password using the 0–9 buttons. Parental Control will be canceled (“Parental Lock” set to “Off”) until you turn your projection TV off.

Selecting a Custom Rating in U.S.A.

If you want to select the ratings to be blocked from “Custom” once you have activated the Parental Control feature (page 37), follow the procedure below.

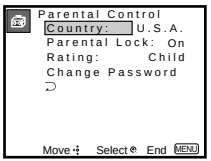
For a detailed description of each rating, see “What the Ratings Mean” on pages 43 to 45.

1 Select “Parental Control” from the Set Up menu. (see page 34)

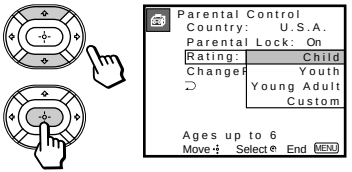


2 Enter your four digit password using the 0–9 buttons.

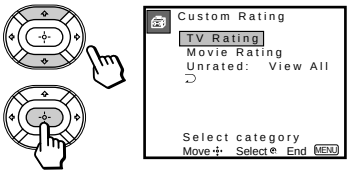
The Parental Control menu appears. Make sure that “Country” is set to “U.S.A.”



3 Press ↑ or ↓ to select “Rating,” and press ⊹.

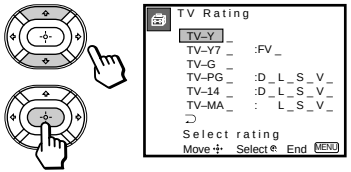


4 Press ↑ or ↓ to select “Custom,” and press ⊹.

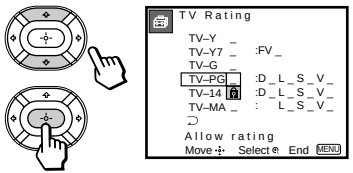


First, select a TV rating.

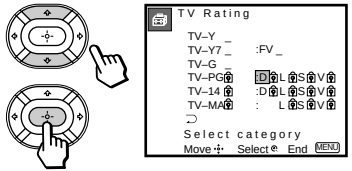
5 Press ↑ or ↓ to select “TV Rating,” and press ⊕.



6 Press ↑ or ↓ to select the TV rating to be blocked, and press ⊕.



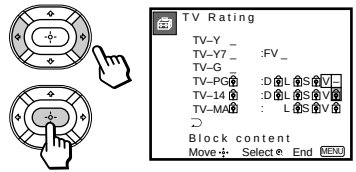
7 Press ↑ or ↓ to select “🔒,” and press ⊕. The 🔒 indicator automatically appears beside the selected rating and all “higher” ratings, indicating that the programs that match the ratings will be blocked.



Some ratings have additional content ratings called “extenders.” The extenders are defined as follows: D (sexually suggestive Dialog), FV (Fantasy Violence), L (coarse Language), S (Sexual situations) and V (Violence). By setting the extenders, you can define additional viewing limits. For more details of extenders, see page 45.

All of the extenders included in the selected ratings will be blocked. If you wish to allow any of them to be viewed, go to step 8.

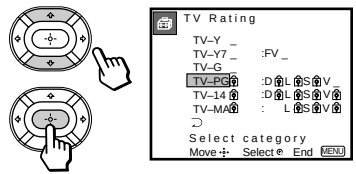
8 Press ← or → to select the extender to be viewed, and press ⊕.



9 Press ↑ or ↓ to select “–,” and press ⊕.

“–” appears beside the selected extender, indicating that the programs that match the extender can be viewed.

If you select “🔒,” 🔒 is displayed to show that the programs that match the extender will be blocked again.

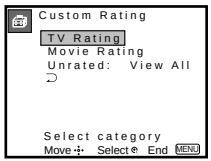


(continued)

10 Repeat steps 8 and 9 for other extenders.

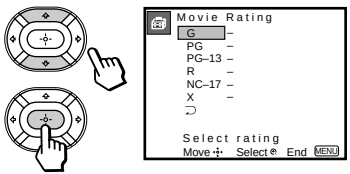
All programs that match the ratings you select and higher, except for the extenders that were canceled, will be blocked.

11 After setting of the TV rating is complete, press ↑ or ↓ to select "⮌," and press ⊕.

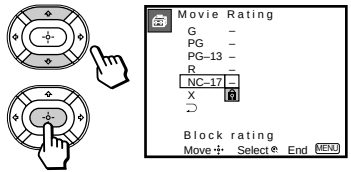


Second, select a movie rating.

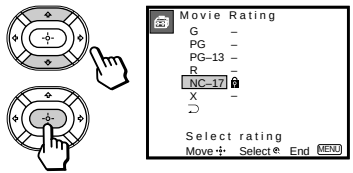
12 Press ↑ or ↓ to select "Movie Rating," and press ⊕.



13 Press ↑ or ↓ to select the movie rating to be blocked, and press ⊕.



14 Press ↑ or ↓ to select "🔒," and press ⊕. The 🔒 indicator automatically appears beside the selected rating and all "higher" ratings, indicating that the programs that match the ratings will be blocked.



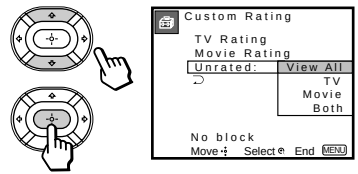
15 Press MENU to exit the menu.

To block TV programs and/or movies for which a rating signal is not given (NR and N/A)

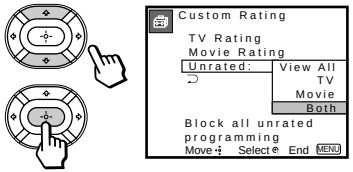
For a description of the NR and N/A ratings, see page 44.

1 Perform steps 1–4 of "Selecting a Custom Rating in U.S.A." on page 38.

2 Press ↑ or ↓ to select "Unrated," and press ⊕.



3 Press ↑ or ↓ to select the type of programs to be blocked, and press ⊕.



To block ...	Select ...
No program (to view any unrated TV program and movie)	View All
Unrated TV programs	TV
Unrated movies	Movie
Unrated TV programs and movies	Both

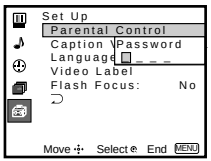
4 Press MENU to exit the menu.

Selecting a Custom Rating in Canada

If you want to select the ratings to be blocked from "Custom" once you have activated the Parental Control feature (page 37), follow the procedure below.

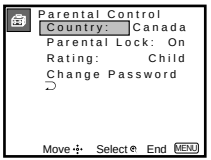
For a detailed description of each rating, see "What the Ratings Mean" on pages 45 and 46.

1 Select "Parental Control" from the Set Up menu. (see page 34)

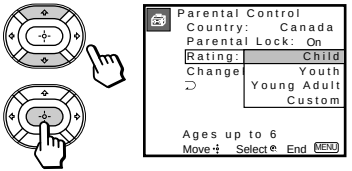


2 Enter your four digit password using the 0–9 buttons.

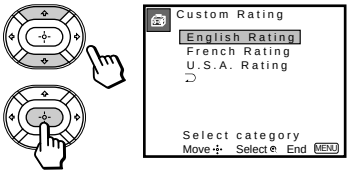
The Parental Control menu appears. Make sure that "Country" is set to "Canada."



3 Press ↑ or ↓ to select "Rating," and press ⊕.



4 Press ↑ or ↓ to select "Custom," and press ⊕.

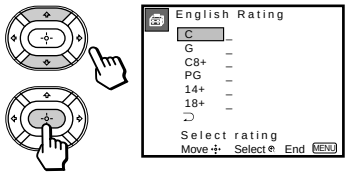


(continued)

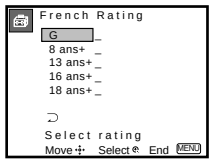
5 Press ↑ or ↓ to select the rating you want to block, and press ⊕.

The selected rating appears.

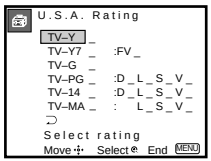
Canadian English Rating



Canadian French Rating

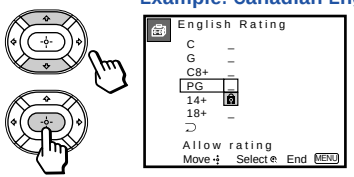


U.S. TV Rating

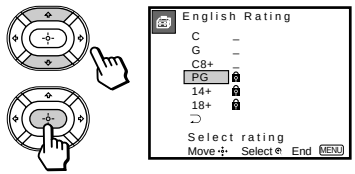


6 Press ↑ or ↓ to select the TV rating to be blocked, and press ⊕.

Example: Canadian English Rating



7 Press ↑ or ↓ to select "🔒," and press ⊕. The 🔒 indicator automatically appears beside the selected rating and all "higher" ratings, indicating that the programs that match the ratings will be blocked.



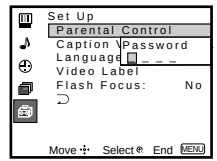
Some U.S. TV ratings have additional content ratings called "extenders," such as D, FV, L, S and V. By setting the extenders, see steps 7 to 10 of "Selecting a Custom Rating in U.S.A." on pages 39 and 40. For more details of extenders, see page 45.

All of the extenders included in the selected ratings will be blocked. If you wish to allow any of them to be viewed, go to step 8.

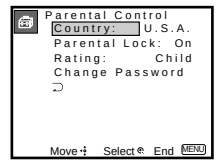
8 Press MENU to exit the menu.

Changing the Password

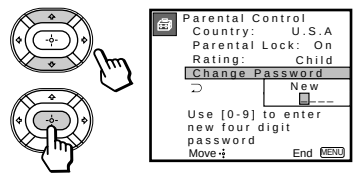
1 Select "Parental Control" from the Set Up menu. (see page 34)



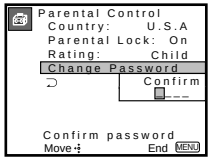
2 Enter your four digit password using the 0–9 buttons.
The Parental Control menu appears.



3 Press ↑ or ↓ to select "Change Password," and press ⊕.



4 Enter a new four digit password using the 0–9 buttons.



5 Enter the password set in step 4 again to confirm.

If you entered it incorrectly, “Password incorrect” appears.

Re-enter the correct password.

6 Press MENU to exit the menu.

If you have forgotten your password

In step 2 of “Changing the Password” on page 42, enter the master password “4357” (corresponding to “HELP” on a phone number pad). You can then store a new password.

Notes:

- If you entered “4357” as your password the first time, you cannot store a new password. (see step 2 of “Activating the Parental Control Feature” on page 36)
- When you select a Parental Control program and the indicator is displayed on the screen, you cannot view that program even if you enter “4357.” (see “To unlock the Parental Control feature temporarily” on page 38)

What the Ratings Mean

Ratings in U.S.A.

Sony’s predetermined ratings

These are original ratings that Sony predetermined according to the viewer’s age. Each rating allows you to view the certain programs, as follows.

See pages 44 and 45 for a description of each rating.

Child: Suitable for children under the age of 6.
Viewable U.S. movie ratings: G, NR, and N / A
Viewable U.S. TV ratings: TV-Y, TV-G, and TV-NR

Youth: Suitable for children aged 7 and older.
Viewable U.S. movie ratings: G, PG, NR, and N / A
Viewable U.S. TV ratings: TV-Y, TV-Y7, TV-G, TV-PG, and TV-NR

Young Adult: Suitable for children aged 13 and older.
Viewable U.S. movie ratings: G, PG, PG-13, NR, and N / A
Viewable U.S. TV ratings: TV-Y, TV-Y7, TV-G, TV-PG, TV-14, and TV-NR

(continued)

U.S. movie ratings

U.S. movie ratings are for movies (including those shown on TV) rated according to the Motion Picture Association of America (MPAA) Guidelines.

G (General Audiences—All Ages Admitted): In G-rated films no strong words are used, the violence is at a minimum, nudity and sex scenes are not present, nor is there any drug use.

PG (Parental Guidance Suggested. Some Material May Not Be Suitable For Children): This is a film which may need to be monitored first by parents.

PG-13 (Parents Strongly Cautioned. Some Material May Be Inappropriate For Children Under 13): Parents are alerted to be very careful about the attendance of their under-teenage children when viewing.

R (Restricted, Under 17 Require Accompanying Parent Or Adult Guardian): This film includes hard language, tough violence, nudity, drug abuse or other elements of concern.

NC-17 or X (No One 17 Or Under Admitted.): This is a film that most parents would consider not suitable for children aged 17 and under. There may be violence, sex, abberrational behavior, drug abuse or other elements of concern.

NR (Not Rated): This is a film that a producer has not rated, intending to have his film widely released.

N/A (Not Applicable): This is a film that a producer considers outside the scope of the MPAA ratings.

Note:

- NR and N/A ratings are shown together as “Unrated” in the menu.

U.S. TV ratings

U.S. TV ratings are for TV programs rated according to the U.S. Television Parental Guidelines.

TV-Y (All Children): This program is designed for young children aged 2–6 and is appropriate for all children.

TV-Y7 (Directed to Older Children): This program is designed for children aged 7 and above. Themes and elements in this program may include mild fantasy violence or slapstick violence, or may frighten children under the age of 7.

TV-G (General Audience): Most parents would find this program suitable for all ages. It contains little or no violence, no strong language and little or no sexual dialog or situations.

TV-PG (Parental Guidance Suggested): This program contains some material that parents may find unsuitable for younger children.

TV-14 (Parents Strongly Cautioned): This program contains some material that many parents would find unsuitable for children under the age of 14.

TV-MA (Mature Audience Only): This program is specifically designed to be viewed by adults and therefore may be unsuitable for children under the age of 17.

TV-NR (Not Rated/Unrated): This is a program broadcast without any rating, such as news, news flashes or sports.

Note:

The TV-NR rating is shown as "Unrated" in the menu.

About the extenders of U.S. TV ratings

TV-Y7, TV-PG, TV-14 and TV-MA ratings have additional content ratings called "extenders" to define additional viewing limits. The extenders are defined as follows:

D (sexually suggestive Dialog): Programs containing suggestive dialog, or sexual innuendo

FV (Fantasy Violence): Programs containing cartoon violence occurring in TV-Y7 programs only

L (coarse Language): Programs containing coarse language

S (Sexual situations): Programs containing sexual content

V (Violence): Programs containing violence There may be some profanity, violence or brief nudity in these programs.

Ratings in Canada

Sony's predetermined ratings

These are original ratings that Sony predetermined according to the viewer's age. Each rating allows you to view the certain programs, as follows.

See the right column and page 46 for a description of each rating.

Child: Suitable for children under the age of 7.
Viewable Canadian English Language ratings: C and G
Viewable Canadian French Language ratings: G
Viewable U.S. TV ratings: TV-Y, TV-G, and TV-NR

Youth: Suitable for children aged 8 and older.
Viewable Canadian English Language ratings: C, G, C8+ and PG
Viewable Canadian French Language ratings: G and 8 ans+
Viewable U.S. TV ratings: TV-Y, TV-Y7, TV-G, TV-PG, and TV-NR

Young Adult: Suitable for children aged 14 and older.
Viewable Canadian English Language ratings: C, G, C8+, PG and 14+
Viewable Canadian French Language ratings: G, 8 ans+, 13 ans+
Viewable U.S. TV ratings: TV-Y, TV-Y7, TV-G, TV-PG, TV-14, and TV-NR

Canadian English Language ratings

The Canadian English Language Ratings are for TV programs in English broadcast in Canada.

C (Programming intended for children under age 8): There will be no realistic scenes of violence or no offensive language, nudity or sexual content. Careful attention is paid to themes, which could threaten children's sense of security and well-being.

G (General Audience): Will contain very little violence, either physical or verbal or emotional. There may by some inoffensive slang, no profanity and no nudity.

(continued)

C8+ (Programming generally considered acceptable for children 8 years and over to watch on their own): Violence will not be portrayed as the preferred, acceptable, or only way to resolve conflict; or encourage children to imitate dangerous acts which they may see on television. There will be no profanity, nudity or sexual content.

PG (Parental Guidance): Programming intended for a general audience but which may not be suitable for younger children. Parents may consider some content inappropriate for unsupervised viewing by children aged 8 - 13.

14+ (Programming contains themes or content which may not be suitable for viewers under the age of 14): Parents are strongly cautioned to exercise discretion in permitting viewing by pre-teens and early teens.

18+ (Adult): May contain violence integral to the development of the plot, character or theme, intended for adult audiences. May contain graphic language and explicit portrayals of nudity and / or sex.

E (Exempt): Exempt programming includes: news, sports documentaries and other information programming: talk shows, music videos, and variety programming.

Note:

The E (Exempt) rating is not shown in the menu.

Canadian French Language ratings

The Canadian French Language Ratings are for TV programs in French broadcast in Canada.

G (General): Programming intended for audience of all ages. Contains no violence, or the violence it contains is minimal or is depicted appropriately with humor or caricature or in an unrealistic manner.

8 ans+ (8+ General - Not recommended for young children): Programming intended for a broad audience but contains light or occasional violence that could disturb young children. Viewing with an adult is recommended for young children (under the age of 8).

13 ans+ (Programming may not suitable for children under the age of 13): Viewing with an adult is strongly recommended for children under 13.

16 ans+ (Programming is not suitable for children under the age of 16): Contains frequent scenes of violence or intense violence.

18 ans+ (Programming restricted to adults): Contains constant violence or scenes of extreme violence.

E (Exempt): Exempt programming.

Note:

The E (Exempt) rating is not shown in the menu.

Setting the Manufacturer's Code

You can use the supplied remote control to operate Sony or non-Sony video equipment that has an infrared sensor.

Press CODE SET, DVD/VTR (FUNCTION), and the 0-9 buttons to enter the manufacturer's code number (see the following chart), then press ENTER.

For example, to operate a Sony 8mm VCR:

If the remote control doesn't work

- See the tips on page 49.

VCR manufacturer code numbers

Manufacturer	Code
Sony (VHS VCR)	301
Sony (8mm VCR)	302
Sony (Beta, ED Beta, VCRs)	303
Aiwa	338
Admiral (M. Ward)	327
Audio Dynamic	314, 337
Bell & Howell (M. Ward)	330
Broksonic	319, 317
Canon	309, 308
Citizen	332
Craig	302, 332
Curtis Mathis	304, 338, 309
Daewoo	341, 312, 309
DBX	314, 336, 337
Dimensia	304
Emerson	319, 320, 316, 317, 318, 341
Fisher	330, 335
Funai	338
General Electric	329, 304, 309
Go Video	340, 339, 322
Goldstar	332
Hitachi	306, 304, 305, 338
Instant Replay	309, 308
JC Penney	309, 305, 304, 330, 314, 336, 337
JVC	314, 336, 337
Kenwood	314, 336, 332, 337
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MDP manufacturer code numbers

Manufacturer	Code
Sony	701
Panasonic	704, 710
Mistubishi	702

DVD Player manufacturer code numbers

Manufacturer	Code
Sony	751
Panasonic	753
Pioneer	752
RCA	755
Toshiba	754

Tips

- *In some rare cases, you may not be able to operate your non-Sony video equipment with the supplied remote control. In this case, please use the equipment's own remote control.*
- *When you remove the batteries, the code number may revert to the factory setting.*

To operate video equipment

1. Press DVD/VTR (FUNCTION).
2. Use the VCR/DVD/MDP operation buttons indicated in the following tables.

Operating a VCR using the remote control

To turn On/Off	Press DVD/VTR (POWER). [Green Button]
To select a channel	Press the 0 – 9 buttons.
To change channels	Press CH +/–.
To record	Press ► while pressing ●.
To play	Press ►.
To stop	Press ■.
To fast forward	Press ▶▶.
To rewind the tape	Press ◀◀.
To pause	Press ❚❚. Press again to resume normal playback.
To search the picture forward or backward	Press ▶▶ or ◀◀ during playback. Release to resume normal playback.
To change input mode	Press TV/VTR.

Operating an MDP using the remote control

To turn On/Off	Press DVD/VTR (POWER). [Green Button]
To play	Press ►.
To stop	Press ■.
To pause	Press ❚❚. Press again to resume normal playback.
To search the picture forward or backward	Press ▶▶ or ◀◀ during playback. Release to resume normal playback.
To search a chapter forward or backward	Press CH +/–.

Operating a DVD Player using the remote control

To turn On/Off	Press DVD/VTR (POWER). [Green Button]
To play	Press ►.
To stop	Press ■.
To pause	Press ❚❚. Press again to resume normal playback.
To step through different tracks of an audio disc	Press ▶▶ to step forward or ◀◀ to step backward.
To step through different chapters of a video disc	Press CH + to step forward or CH – to step backward.
To select tracks directly	Press 0-9 buttons.
To display the menu (Set up)	Press MENU.

Setting the Manufacturer's Code

You can program the supplied remote control to operate a cable box or satellite receiver.

Press CODE SET, SAT / CABLE (FUNCTION), and the 0-9 buttons to enter the manufacturer's code number (see the following chart), then press ENTER.

For example, to operate a Sony satellite receiver:

Manufacturer code numbers (cable box)

Manufacturer	Code
Hamlin/Regal	222, 223, 224, 225, 226
Jerrold/G.I	201, 202, 203, 204, 205, 222, 206, 207, 208, 218
Oak	227, 228, 229
Panasonic	219, 220, 221
Pioneer	214, 215
Scientific Atlanta	209, 210, 211
Tocom	216, 217
Zenith	212, 213

Manufacturer code numbers (satellite receiver)

Manufacturer	Code number
Sony	801 (preset code for remote control)
General Electric	802, 808
Hitachi	805
Hughes	804
Panasonic	803
RCA/PROSCAN	802
Toshiba	806, 807

To operate the cable box or satellite receiver (SAT)

1. Press SAT / CABLE (POWER) [Green Button] to turn on / off the cable box or satellite receiver.
2. Press SAT / CABLE (FUNCTION).
3. For other operations, refer to the operating instructions that come with the equipment.
   The GUIDE and INDEX (blue-labeled) buttons can be used only with a satellite receiver.

If the remote control doesn't work

- Try repeating the set up procedures using the other codes listed for your equipment.

To operate the projection TV

Press TV (FUNCTION). Then use the projection TV control buttons to control the projection TV.

Tips

- *If more than one code number is listed, try entering them one by one until you come to the correct code for your equipment.*
- *If you enter a new code number, the code number you previously entered at that setting is erased.*
- *In some rare cases, you may not be able to operate your equipment with the supplied remote control. In this case, use the equipment's own remote control unit.*
- *Whenever you remove the batteries — to replace them, for example — if too much time is taken, the code numbers may revert to the factory setting and must be reset.*

Troubleshooting

If, after reading the following instructions, you have additional questions related to the use of your Sony projection TV, please call one of the following numbers (English only).
Customers in the continental United States contact the Direct Response Center at: 1-800-222-SONY (7669)
Customers in Canada contact the Customer Relations Center at: (416) 499-SONY (7669)

The picture turns off and the TIMER/STAND BY indicator on the front panel flashes (self-diagnosis function)	• The projection TV is equipped with a self-diagnosis function. If there is a problem with your projection TV, the TIMER/STAND BY indicator on the front panel will flash repeatedly. Counting the number of flashes helps you inform qualified Sony personnel of the projection TV's condition. • Press POWER on the projection TV to turn it off, then inform qualified Sony personnel or the above Direct Response Center of the number of flashes.
No picture (screen not lit), no sound	• Make sure the power cord is plugged in. • Operate with the buttons on both the projection TV and the remote control. • Check to see if the TV/VIDEO setting is correct: when watching TV, set to TV, and when watching video tapes, set to VIDEO 1, 2, 3 or 4. • Try another channel. *It could be station trouble.* • Perform AUTO SET UP again using the SET UP button to return to the factory preset condition. (see "To perform AUTO SET UP again" on page 19) • The Parental Control feature is activated. (see "To deactivate the Parental Control feature" on page 37)
Remote control does not operate	• Batteries could be weak. Replace the batteries. • Press TV (FUNCTION) when operating your projection TV. • Make sure the projection TV's power cord is connected securely to the wall outlet. • Locate the projection TV at least 3-4 feet away from fluorescent lights. • Check the polarity of the batteries.
Dark, poor or no picture (screen lit), good sound	• Adjust "Picture" in the Video menu. (see "Picture Adjustment" on page 26) • Adjust "Brightness" in the Video menu. (see "Picture Adjustment" on page 26) • Check antenna/cable connections. • Perform AUTO SET UP again using the SET UP button to return to the factory preset condition. (see "To perform AUTO SET UP again" on page 19) • Adjust the convergence again using the FLASH FOCUS button. (see "Adjusting the Convergence Automatically (FLASH FOCUS)" on page 19)
Good picture, no sound	• Press MUTING so that "Muting" disappears from the screen. (see "MUTING" on page 20) • Check the MTS/SAP setting in the Audio menu. (see "MTS/SAP" on page 27) • Make sure "Speaker" is set to "On" in the Audio menu. (see "Speaker" on page 28) • Perform AUTO SET UP again using the SET UP button to return to the factory preset condition. (see "To perform AUTO SET UP again" on page 19)

Cannot receive upper channels (UHF) when using an antenna	• Make sure “Cable” is “Off” in the Channel Set Up menu. (see “Cable” on page 31) • Use “Auto Program” to add receivable channels that are not presently in the TV’s memory. (see “Auto Program” on page 31)
No color	• Adjust “Color” in the Video menu. (see “Picture Adjustment” on page 26) • Black and white programs cannot be seen in color. • Perform AUTO SET UP again using the SET UP button to return to the factory preset condition. (see “To perform AUTO SET UP again” on page 19)
Only snow and noise appear on the screen	• Check the “Cable” setting in the Channel Set Up menu. (see “Cable” on page 31) • Check the antenna/cable connections. • Make sure the channel is broadcasting programs. • Press ANT to change the input mode. (see “ANT” on page 22)
Dotted lines or stripes	• Adjust the antenna. • Keep the projection TV away from noise sources such as cars, neon signs or hair-dryers.
TV is fixed to one channel	• Use “Auto Program” to add receivable channels that are not presently in TV’s memory. (see “Auto Program” on page 31)
Double images or ghosts	• Use a highly directional outdoor antenna or a cable (when the problem is caused by reflections from nearby mountains or tall buildings).
Cannot operate the menu	• If the item you want to choose appears in gray, you cannot select it. • Press the projection TV’s power button off and on again.
Cannot receive any channels when using cable TV	• Make sure “Cable” is “On” in the Channel Set Up menu. (see “Cable” on page 31) • Use “Auto Program” to add receivable channels that are not presently in the TV’s memory. (see “Auto Program” on page 31)
Cannot gain enough volume when using a cable box	• Increase the volume at the cable box. Then press TV (FUNCTION) and adjust the projection TV’s volume.
Favorite Channel does not display your choices	• Verify that “Favorite Channel” is set to “Manual” in the Channel Set Up menu. (see “Setting Favorite Channel manually” on page 32)
Some video sources do not appear when you press TV/VIDEO	• Ensure that “Video Label” is not set to “Skip.” (see “Video Label” on page 35)
Cannot play shooting games	• Some shooting games which involve pointing a light beam at the TV screen with an electronic gun or rifle cannot be used with this projection TV. For details, see the instruction manual supplied with the video game software.
Cannot receive the AUX input in the window picture in PIP	• The AUX input is not available in the window picture in PIP. To see the AUX input in PIP, press ANT button then press PIP button. The AUX input appears in the main picture and the other video source in the window picture.

Specifications

Projection system
3 picture tubes, 3 lenses, horizontal in-line system
Picture tube
7-inch high-brightness monochrome tubes (6.3 raster size), with optical coupling and liquid cooling system
Projection lenses
High performance, large diameter hybrid lens F1.05
Television system
American TV standard
Channel coverage
VHF: 2–13 / UHF: 14 –69 / CATV: 1 – 125
Antenna
75 ohm external terminal for VHF / UHF
Screen size (measured diagonally)
43 inches (KP-43T90)
48 inches (KP-48V90)
53 inches (KP-53V90)
61 inches (KP-61V90)
Inputs/outputs
VIDEO 1 IN
VIDEO 2 INPUT
VIDEO 3 IN
S VIDEO IN (4-pin mini DIN):
Y: 1 Vp-p, 75-ohms unbalanced, sync negative
C: 0.286 Vp-p (Burst signal), 75 ohms
VIDEO (phono jack): 1 Vp-p, 75-ohms unbalanced, sync negative
AUDIO (phono jacks): 500 mVrms (100% modulation), Impedance: 47 kilohms
VIDEO 4 IN
Y: 1 Vp-p, 75 ohms, sync negative
P_B: 0.7 Vp-p, 75 ohms
P_R: 0.7 Vp-p, 75 ohms
AUDIO (phono jacks): 500 mVrms (100% modulation), Impedance: 47 kilohms
AUDIO (VAR/FIX) OUT (phono jacks): 500 mVrms (100% modulation), Impedance: 470 ohms
CONTROL S OUT: minijack
Speaker
Tweeter: 66 mm ($2\frac{5}{8}$") × 2 (KP-61V90)
Woofer:
160 mm ($6\frac{3}{8}$") × 2 (KP-61V90)
100 mm (4") × 2 (KP-43T90 / 48V90 / 53V90 / 61V90)
Speaker output
17W × 2 (KP-43T90 / 48V90 / 53V90 / 61V90)
Power requirement
120 V AC, 60 Hz
Power consumption
In use (Max.): 160 W
In standby: 1 W
Dimensions (W/H/D)
965 × 1,058 × 570 mm ($38 \times 41\frac{5}{8} \times 22\frac{1}{2}$ inches) (KP-43T90)
1,105 × 1,338 × 579 mm ($43\frac{1}{2} \times 52\frac{5}{8} \times 22\frac{3}{4}$ inches) (KP-48V90)
1,216 × 1,417 × 632 mm ($47\frac{7}{8} \times 55\frac{3}{4} \times 24\frac{7}{8}$ inches) (KP-53V90)
1,370 × 1,560 × 670 mm ($54 \times 61\frac{3}{8} \times 26\frac{3}{8}$ inches) (KP-61V90)
Mass
53.2 kg (117 lbs) (KP-43T90)
64.4 kg (142 lbs) (KP-48V90)
66 kg (145 lbs) (KP-53V90)
92.6 kg (204 lbs 8 oz) (KP-61V90)
Supplied accessories
Remote control RM-Y906 (1)
Batteries (2) size AA (R6)
Optional accessories
Connecting cables
RK-G34, RK-74A, RK-G69HG, VMC-10HG, VMC-720M, VMC-810S / 820S, YC-15V / 30V
U / V mixer EAC-66

Design and specifications are subject to change without notice.

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Customers in Canada contact the Customer Relations Center at:
(416) 499-SONY (7669)

http://www.world.sony.com/

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PRINTING THE SERVICE MANUAL

The PDF of this service manual is not designed to be printed from cover to cover. The pages vary in size, and must therefore be printed in sections based on page dimensions.

NON-SCHEMATIC PAGES

Data that does NOT INCLUDE schematic diagrams are formatted to 8.5 x 11 inches and can be printed on standard letter-size and/or A4-sized paper.

SCHEMATIC DIAGRAMS

The schematic diagram pages are provided in two ways, full size and tiled. The full-sized schematic diagrams are formatted on paper sizes between 8.5" x 11" and 18" x 30" depending upon each individual diagram size. Those diagrams that are LARGER than 11" x 17" in full-size mode have been tiled for your convience and can be printed on standard 11" x 17" (tabloid-size) paper, and reassembled.

TO PRINT FULL SIZE SCHEMATIC DIAGRAMS

If you have access to a large paper plotter or printer capable of outputting the full-sized diagrams, output as follows:

1) Note the page size(s) of the schematics you want to output as indicated in the middle window at the bottom of the viewing screen.

2) Go to the File menu and select Print Set-up. Choose the printer name and driver for your large format printer. Confirm that the printer settings are set to output the indicated page size or larger.

3) Close the Print Set Up screen and return to the File menu. Select "Print..." Input the page number of the schematic(s) you want to print in the print range window. Choose OK.

TO PRINT TILED VERSION OF SCHEMATICS

Schematic pages that are larger than 11" x 17" full-size are provided in a 11" x 17" printable tiled format near the end of the document. These can be printed to tabloid-sized paper and assembled to full-size for easy viewing.

If you have access to a printer capable of outputting the tabloid size (11" x 17") paper, then output the tiled version of the diagram as follows:

1) Note the page number(s) of the schematics you want to output as indicated in the middle window at the bottom of the viewing screen.

2) Go to the File menu and select Print Set-up. Choose the printer name and driver for your printer. Confirm that the plotter settings are set to output 11" x 17", or tabloid size paper in landscape (▭) mode.

3) Close the Print Set Up screen and return to the File menu. Select "Print..." Input the page number of the schematic(s) you want to print in the print range window. Choose OK.

TO PRINT SPECIFIC SECTIONS OF A SCHEMATIC

To print just a particular section of a PDF, rather than a full page, access the Graphics Select tool in the Acrobat Reader tool bar.

1) To view the Graphics Select Tool, press and HOLD the mouse button over the Text Select Tool which looks like:
This tool will expand to reveal to additional tools.
Choose the Graphics Select tool by placing the cursor over the button on of the far right that looks like:

2) After selecting the Graphics Select Tool, place your cursor in the document window and the cursor will change to a plus (+) symbol. Click and drag the cursor over the area you want to print. When you release the mouse button, a marquee (or dotted lined box) will be displayed outlining the area you selected.

3) With the marquee in place, go to the file menu and select the "Print..." option. When the print window appears, choose the option under the section called "Print Range" which says "Selected Graphic".

Select OK and the output will print only the area that you outlined with the marquee.

(continued >)

ON-SCREEN SEARCH OPTION

All of the text within the service manual PDF is content searchable. This means that you can enter any text, word, phrase or reference number that appears in the manual, and the PDF software will search, find and move the cursor to the location where you requested text first appears. This feature can be particularly useful in locating components on a specific schematic or printed wire circuit board (PWB) diagrams.

Follow these steps to effectively locate a component on a schematic diagram:

1) Locate the schematic you want to search by clicking on the corresponding bookmark on the left side of the screen. The view on the right of the screen will then jump to the desired schematic page.

2) Magnify the diagram to at least 400% before conducting a component search. This will enable you to easily view the reference number when it is highlighted on screen. To do this, click on the magnifying glass button on the tool bar at the top of the screen. Move the cursor over the diagram and RIGHT click you mouse. Select the 400% magnification option on the pop-up menu. Click on the button with the icon of the open hand to deactivate the magnification tool

3) Search the diagram (or the entire manual) by clicking on the binocular button tool at the top of the screen. The “Find” window will appear and allow you to type in your desired text. Type in a reference designator, such as R502, and click on the “Find” button. If the component is not on the diagram, but is listed anywhere else in the manual, the cursor will jump to the first location the text is found in the file. To find another instance of that same text, click on the binocular button again and select “Find Again.”